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## **Nurses who smoke : the experience of attempting to quit.**

Rowe, Kathleen

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**NURSES WHO SMOKE:  
THE EXPERIENCE OF ATTEMPTING TO QUIT**

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**Thesis submitted for the degree of PhD**

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## **ABSTRACT**

The aim of this study was to evaluate the impact of an individualised cessation intervention on the smoking behaviour of qualified nurses and student nurses and to explore the experiences of nurses who attempted to give up smoking. A comparison or reference group comprised qualified nurses and student nurses who wished to give up smoking but did not receive the intervention.

In phase one, data were collected pre and post intervention and analysed using a combination of quantitative and qualitative methods. Self reports of smoking cessation were objectively verified by measuring carbon monoxide in expired alveolar air and cotinine in saliva. Twenty five per cent of nurses in the intervention group stopped smoking at one year compared with 8% in the reference group. This suggests that an individualised smoking cessation intervention is an appropriate method for helping nurses stop smoking and that Prochaska and DiClemente's (1982) transtheoretical model of behavioural change is a useful framework upon which to base smoking cessation interventions.

In phase two semi-structured interviews were undertaken with qualified nurses and student nurses to explore the reasons why some stopped smoking and others continued. A qualitative approach to analysis revealed that nurses who successfully stopped experienced something akin to a 'Damascus Road' experience and had internalised the effects of smoking on their health and professional role. Specific barriers to stopping smoking were also identified particularly amongst the qualified nurses who described the powerful relationship they enjoyed with cigarettes. This relationship was linked to varying levels of stress incurred in their everyday lives. Student nurses described the impact of important peer relationships which were in turn nurtured by the smoking condoning culture within the College of Nursing.

In examining the effect of smoking on the nurse's role the findings suggest that nurses who smoke are compromising their role as promoters of health in this area and that the students studied have little understanding of the meaning of health promotion. The implications of these findings for professional practice are discussed.



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## INTRODUCTION

Over the years there has been an ongoing debate about the implications of the smoking behaviour of nurses in relation to their own health and in the context of their professional role and responsibilities (Faulkner and Ward 1983; Macleod Clark et al 1987). Empirical data about the smoking rates amongst nurses is limited with many studies being out of date and/or focusing on small samples (Kirby et al 1976; Spencer 1984). There appears to be a general consensus from the literature that nurses' smoking behaviour equates with that of women in the population in general, which is approximately 28% (HEMS1995). These rates are influenced by occupational status and professional role, with those in more senior positions smoking less than student nurses, staff nurses and nursing auxiliaries (Becker et al 1986; Feldman 1986). However, the fact that many nursing students and qualified staff do smoke remains a matter of considerable concern, both in the context of their own health and also given the growing emphasis on the nurse's health promotion role and responsibilities.

The aim of the World Health Organisation is to attain a target of 80 % of non-smokers in all countries by the year 2000 (WHO 1992). In view of this, it is imperative that all nurses and other health professionals develop an effective health promotion role in relation to smoking. In addition, the Department of Health (1989) and the Royal College of Nursing (1989) recognise health promotion as being of the highest importance, and recommend that practitioners should maximise their skills and avail themselves of every opportunity to incorporate this concept into the care they give. Despite this vision, Macleod Clark et al (1993) report that in general, nurses' health education and health promotion practices are limited and mainly focused on advice giving. A number of inhibiting factors are considered such as a lack of knowledge, lack of skills and inadequate opportunities offered for empowerment in nursing. The findings support previous studies which report that in the main, nurses' health promotion interactions are not participatory and collaborative but remain prescriptive and underdeveloped (Gott and Brien 1990; Kendall 1991; Macleod Clark et al 1990). Similarly, Davis (1992) explored nurses understanding of the concepts of health education and health promotion and found that they lacked clarity.

A number of studies have pointed to the potential value of nurses taking an active role in smoking cessation (Burt et al 1974; Goldstein et al 1987; Padula 1992). However, it would appear that despite recognition of their professional responsibility as models of good health practices, many nurses continue to smoke. It is suggested that the smoking behaviour of nurses potentially impairs their role in altering patterns of smoking in the general public (Knobf and Morra 1983). It has also been inferred that visible smoking by health professionals imposes a negative influence on the smoking behaviour of patients (Kottke et al 1985; Dawley et al 1981). Moreover it has been proposed, that before nurses can serve as role models for positive health behaviours, they must incorporate these behaviours into their own personal lifestyles (Soeken et al 1989).

The smoking cessation literature supports the superiority of interventions which assess individual needs and circumstances and which are provided on a local basis (Dawley et al 1984; Gritz et al 1988). It would appear however that there has not been a sustained effort to target nurses in an attempt to promote a change in their smoking behaviour. Little is known about how nurses themselves feel in relation to their smoking and its possible effects on their own health. There is also little understanding of the relationship between their smoking behaviour and feelings about their professional role as a promoter of health. In the absence of effective smoking cessation interventions with nurses, the purpose of this study was (i) to evaluate the effectiveness of an individualised approach to smoking cessation with a group of qualified nurses and student nurses in Northern Ireland; (ii) to explore the experiences of nurses who attempt to stop smoking; and (iii) to examine the perceptions of qualified nurses and student nurses who smoke in relation to the potential effects of smoking on their own health and their professional role.

Chapter One examines the empirical data on nurses' smoking behaviour in the context of the general smoking population in the United Kingdom (UK). The research reported in this thesis was carried out in Northern Ireland and the smoking statistics for Northern Ireland therefore are examined separately and then they are compared with the general UK studies. Studies examining the potential factors which may influence nurses' decisions to continue to smoke are also reviewed. The review of the relevant literature was undertaken utilising a number of computer data bases but with particular scrutiny of CINAHL 1982 – 1997 and MEDLINE 1992 – 1997. Keywords used included nurses

smoking; women smoking and student smoking. All relevant studies identified were included with the exception of those based on inadequate sample populations.

Chapter Two considers various approaches to smoking cessation both in the general population and with a focus on interventions targeting nurses. There have been numerous policy recommendations both nationally and internationally aimed to substantially reduce the percentage of people who smoke by the year 2000, as well as the proposition that nurses have the potential to lead health promotion activities (World Health Organisation 1989). There have however, been very few studies which focus on cessation interventions from nurses who smoke. A review of the literature was undertaken using a number of sources but focusing particularly closely on CINAHL 1982 – 1997 and MEDLINE 1992 – 1997. Keywords used included: smoking cessation; smoking interventions; nurses and smoking cessation; nurses smoking cessation interventions; and health professionals smoking cessation interventions. The criteria for inclusion in this Chapter were studies describing intervention approaches to smoking cessation and those demonstrating evidence of objective evaluation of effectiveness and outcomes.

Chapter Three examines theories of behavioural change. A particular focus is on the relevance of the transtheoretical model of change to smoking cessation. A review of the literature was undertaken exploring the MEDLINE 1992 – 1997 and PSYCLIT 1974 – 1997 data bases. Key words used included: smoking cessation; theories smoking cessation; health behaviour change; theories behavioural change; transtheoretical theory change; decisional balance theory; and theory self efficacy. The studies selected for inclusion were those of particular relevance to smoking cessation interventions undertaken by and for health professionals.

In Chapter Four the methods employed in this study are described. The study was designed in two sequential phases. A combination of quantitative and qualitative methods were utilised to address the research aims. Phase one comprised an evaluation of a smoking cessation intervention. Phase two employed audio-taped recorded semi-structured interviews at one year post intervention. Data were analysed qualitatively in order to gain rich insights into the reasons why some nurses stopped smoking while others continued to smoke. In addition analysis of the interview data provided important

insights into the ways in which nurses perceive the potential effects of smoking on their health and on their role as promoters of health.

Chapters Five and Six detail the findings from phase one and phase two of the study. In Chapter Five, findings from analysis of the phase one data are presented alongside objective verification of smoking cessation outcomes. Chapter Six addresses the main themes which emerged from the interview data obtained in phase two. They include insights from the qualified nurses and student nurses who successfully stopped smoking as well as findings elicited from the interview data pertaining to the qualified nurses and student nurses who continued to smoke. Similarities and differences between nurses who were successful in stopping smoking and those who were not, are highlighted.

Chapter Seven offers a discussion and exploration of the findings. The key issues which appear to be influential in determining why some nurses gave up smoking while others continue, are examined in some detail. In addition nurses' perceptions of smoking on their health and the impact of smoking on their professional role as promoters of health are discussed.



## **CHAPTER ONE**

### **THE PREVALENCE OF SMOKING**

#### **Introduction**

The smoking behaviour of nurses has been widely debated and there has been much speculation about why nurses smoke (Spencer 1984; Adriaanse et al 1991; West and Hargreaves 1995). These explanations include a stressful nursing environment (Leathar 1980; Tagliacozzo and Vaughn 1982; Elkind 1988) peer pressure (Murray et al 1983; Blakey 1991) and level of education and training (Harris et al 1987; Rausch et al 1987). There have been few studies conducted in the United Kingdom and in particular Northern Ireland, which have focused on nurses' smoking behaviour. This has made it difficult to determine with any degree of accuracy the current incidence of smoking amongst nurses. Many of the reports which are available, base their findings on small samples, which often embrace nurses of all types and tend to cause confusion rather than clarify the extent to which nurses smoke. It is clear however from studies examining the smoking behaviour of women in general, that smoking rates are slow to decline and more young women are taking up the smoking habit (Van Roosmalen and McDaniel 1992; Diamond and Goddard 1995). In view of this, it is essential to consider nurses' smoking behaviour in the general context of women and smoking.

In this Chapter the extent of smoking in general is examined and figures are presented which illustrate the current smoking situation in the UK and Northern Ireland. This section is followed by a critical overview of the literature pertaining to the smoking behaviour of nurses. First a number of studies which look at the extent of nurses' smoking behaviour in general, are discussed. Secondly, research which report the smoking behaviour of sub-groups of qualified nurses is examined to provide insight into the extent of smoking in various clinical environments. Thirdly, literature relating to the extent of smoking behaviour among student nurses is critically addressed. The final section explores studies which address the reasons for nurses' smoking behaviour. These are considered alongside literature reporting women and adolescent smoking behaviour in general. There is a dearth of information about the perceptions of nurses, with respect to

smoking and their own health and their professional role. However a few studies do provide some insight into these issues and these are highlighted throughout the Chapter.

### **The Extent of Smoking in the General Population**

There are currently almost three million deaths per year in developed countries from smoking (Peto et al 1994) and it is projected that there will be approximately 20 million deaths from smoking over the decade of the 1990s. It is further reported that the total number of deaths from cigarette smoking over the second half of this century will reach 60 million. Forty million will be among individuals aged 35 - 69 years and 20 million in the older age group (Peto et al 1994).

In the past the largest majority of those who have died from smoking related diseases have been males in developed countries. In more recent years however, the habit has also spread to females. Moreover, large numbers of males are smoking in the developing countries. For example approximately 300 million males smoke in China (Peto et al 1994) and approximately 65% of the total male population smoke in Japan (Sakuraba 1995). If these smoking patterns persist it has been predicted that the current global total of approximately 3 million deaths per year from tobacco smoking (estimated on the figures of 2 million in developed countries, and one million in developing and underdeveloped countries) will reach about 10 million deaths per year by the time children of today reach middle age (Peto et al 1994).

In examining the current state of smoking in the UK, on average 29% of the population smoke (HEMS 1995). This number includes 31% who are male and 28% who are female (Appendix One). Of those who start smoking regularly in their teens, approximately half will eventually die of smoking related diseases if they continue to smoke. One quarter of deaths will occur in old age, and one quarter in middle age, with those killed by smoking in middle age losing on average about 20-25 years of non-smoker life expectancy (Peto et al 1994). It is the vast size of the epidemic that makes smoking so uniquely important as a cause of premature death. Although smoking rates in the UK have been declining over the past ten years with an estimated number of 10 million ex smokers, the decline has been slow. In examining current trends in smoking three important issues emerge.

Women are not stopping smoking to the same extent as their male counterparts (Appendix One), younger adolescents are continuing to smoke in increased numbers (Appendix Two) and smoking is highest among those in the lower socio-economic groups (Appendix Three). These three areas are considered in more detail in subsequent sections.

### Smoking and Gender

In the 1920s, smoking was almost exclusively a male habit and in fact tobacco consumption amongst women in the UK did not reach recordable levels until 1921 (Todd 1972; Wald et al 1988). By 1940, tobacco smoking by women was still only one tenth of that of men, and in 1948 twice as many men were smokers (82%) compared to women (41%). Over the last two decades however, the social distribution of smoking in the UK has undergone marked changes and while smoking remains higher amongst men than women, there has been a narrowing of the gap between the proportion of men and women who smoke. For example in 1974, 51% of men compared with 41% of women smoked (Appendix Two), while in 1995, 31% of men compared with 28% of women were current smokers (HEMS 1995). (Appendix One).

The increase in the number of women smoking is supported by findings from the Northern Ireland Continuous Household Survey (1994/95) which identifies that 29% of all males and 27% of all females currently smoke (Appendix Four). While more men than women smoke overall, it is evident that more females than males are taking up the habit. For example, 27% of female adolescents aged 16-20 years smoke compared with 22% of male adolescents. While the gap narrows in the 21-25 age group, the incidence of women smoking also exceeds that of men in this group, with 37% of females smoking compared with 36% of males. After the age of 25 years the gap widens again and as shown in Appendix 4, 38% of women aged 26-30 smoke compared with 35% of their male counterparts. This continues in the 36- 40 age group with 34% of women smoking compared with 32% of men. After the age of 40 years, the gap is reversed with minimally more males than females tending to smoke. In view of this, there is a clear need for studies which focus on the relationship between smoking and gender. Additionally, as nurses are predominantly female, there is also a need for empirical research which explores nurses' smoking behaviour in the context of gender related issues.

## Smoking and Age

A changing gender balance is most evident in the smoking patterns of young people who commence smoking, in that while the habit is common among male and female adults under the age of 25, more young females than males continue to take up cigarette smoking. In detailing the prevalence of cigarette smoking and age, the reduction in smoking over the past two decades in the UK, can be largely attributed to the over 25 year olds, with the proportion of people who smoke cigarettes being highest in the 16-24 year age group (Appendix One and Two). In addition, an overall increase in smoking can be seen among this age group. The Health in England Monitoring Survey (HEMS 1995) report that 29% of 16-24 year olds are current smokers compared with 27% of the same age group who were smoking in 1994.

In reporting the extent of smoking in Northern Ireland by age, a slightly different age band is employed thus making it difficult to make absolute comparisons with the UK. It is clear however, that while male smoking rates have been decreasing in the 16- 19 year age group over a period of 1983 to 1990/91 (Appendix Five) and similarly in the 16 - 20 year age group in 1994/95 (Appendix Four), there has not been a corresponding decrease in female smoking rates. Females in the former age group have increased their smoking rates from 19% in 1983 to 27% in 1990/91 and in latter years (1994/95) have remained at 27%, thus smoking in considerably higher numbers than males of the same age.

There has also been an increase in recent years in the number of children who smoke. It is reported that around a quarter of a million children in the UK are regular smokers with girls being slightly more likely to smoke than boys. The Health Education Authority's data (1995) demonstrate that 23% of 11 year olds had tried smoking and that by the age of fifteen years, 63% of girls and 59% of boys had experimented with cigarettes. Although not all children who try cigarettes go on to become regular smokers the study reports that 10% of boys and 10% of girls aged 11-15 year old smoked regularly. This figure increases to 26% in 15 year old girls and 19% in 15 year old boys (Appendix Six).

The situation is similar in Northern Ireland. Although a recent study (Health Promotion Agency 1995) reports a fall in the proportion of children who had ever tried smoking

from 65% in 1983 to 38%, in 1994 in the same period there is little change in the proportion of children who smoked regularly (Appendix Seven). The findings indicate that 17% of 11-15 year olds were current smokers and that 26% of girls and 22% of boys were smoking regularly by the time they reached fifth form. The extent to which children currently smoke raises considerable concern, especially in view of the prediction that half of those who start smoking in teenage years and continue to smoke, will die prematurely of smoking related diseases (Peto et al 1994).

The increase in smoking amongst young people, and young females in particular, points to the importance of examining the smoking behaviour of student nurses in the context of the smoking behaviour of young female adolescents in general. Elkind (1988) postulates that the behaviour of nurses is no different from that of other women of their age and social status. If this is the case, and if smoking is established prior to training, then occupational variations may simply relate to the general pattern of adolescent smoking behaviour (Van Roosmalen and McDaniel 1992; Diamond and Goddard 1995; Fergusson et al 1995).

### Smoking and Socio-economic Status

A further trend emerges in patterns of smoking in the UK. Cigarette smoking is increasingly a habit practised by those living in less advantaged social and economic groups. In examining the extent of smoking among socio-economic groups, HEMS (1995) report that 38% of males in Social Class IV and V smoked compared to 23% in Social Class I and II. Similarly more females in Social Class IV and V smoked (34%) compared to 22% in Social Class I and II (Appendix Three). The findings however, indicate that the extent of smoking is greatest among women in Social Class IIIM (40%) thus showing an increase when compared with their male counterparts (37%) in the same Social Class.

In Northern Ireland a similar picture is demonstrated with individuals in lower socio-economic groups smoking more than those in professional groups (CHS 1994/95), (see Appendix Eight). The extent of smoking is highest among males in semi-skilled manual groups (46%) and less among males in professional groups (18%). Female smoking

behaviour differs slightly in that, while the extent of smoking is greatest in semi-skilled manual groups (36%), there is no difference in the prevalence of smoking among professional groups (25%) and skilled manual (25%). Smoking is lower in the non-manual groups (22%) and lowest in the employer, manager group (19%).

A number of empirical studies have been conducted to investigate the incidence of smoking amongst women on low income (Graham 1987; 1993;1996). The evidence suggests that smoking is a habit deeply ingrained in their everyday lives, and although they can ill afford to smoke, for some women it is their one luxury. Moreover, it would appear that despite the potential ill effects on health, it helps them to cope with the stresses of a life characterised by the struggle to manage both for themselves and their families, on very limited resources.

In summary, the above sections have examined figures supporting the scale of the epidemic in the general population. Where there has been a reduction in smoking rates, these are mainly attributed to a decrease in the smoking rates among males and a decrease in smoking above the age of 25 years. It has been identified that females have not reduced smoking to the same extent as males and young women in particular continue to take up the smoking habit. It has further been demonstrated that smoking is greatest amongst the lower socio-economic groups, with 40% of women who smoke in Britain included in socio-economic group IIIM and 36% of females who smoke in Northern Ireland included in the semi-skilled manual groups.

Nurses fall into socio-economic group II (DHSS 1994), and in the light of this there is a need to examine the smoking behaviour of qualified nurses in a demographic context. The majority of nurses are female and it is necessary to consider the extent of qualified nurses' and student nurses' smoking behaviour alongside that of women in the general population. Furthermore, the majority of student nurses are in the 18 - 25 year age group. This being the case, it is necessary to examine the incidence of student nurses smoking alongside that of adolescents and young adults in general.

While sporadic attempts have been made to determine the incidence of smoking amongst nurses, most studies were conducted in the UK and the United States of America during

the 1980's and there has been comparatively little focus on the extent of nurses smoking in the UK within the past ten years. The majority of studies reviewed in this Chapter are somewhat dated and the findings are compromised by methodological inconsistencies such as failing to differentiate between 'type' of nurse, omitting to define a 'smoker' and low response to questionnaires. First the literature pertaining to the incidence of smoking amongst nurses in general is examined in an attempt to determine whether nurses smoke more or less than females in the general population. Subsequent sections address the extent of smoking amongst subgroups of qualified nurses and student nurses to ascertain whether the extent of smoking amongst nurses is influenced by professional status and clinical specialty. The final section details studies which have been undertaken to determine the reasons why qualified nurses and student nurses smoke. These studies explored issues pertaining to stress and smoking, peer and social influence, educational attainment and gender issues and smoking. There is some inevitable overlap in the focus of these studies and such overlaps will be identified. Research which has examined the health beliefs of nurses and their perceptions of their role as promoters of health is presented where appropriate, throughout the chapters.

### **The Prevalence of Smoking Among Nurses in General**

The findings of a number of studies suggest that the population of nurses smoking exceeds that of comparable groups in the general population. The Office of Population Consensus and Surveys (1977) reported that 48% of nurses in the UK smoked regularly whereas only 25% of hospital doctors and 28% of primary school teachers smoked. Similarly, the report of the United States Surgeon General, Smoking and Health (1979) supported high incidences of smoking amongst nurses in the USA. The findings demonstrate that whilst there was a decrease in smoking amongst men during the 1960s to 1975 from 53% to 39% and among women from 32% to 29%, smoking amongst nurses increased from 36% to 39% during the same period.

The above data which illuminated a reputedly high level of smoking amongst nurses triggered a number of studies worldwide. These looked at both the extent of nurses smoking and at their knowledge and attitudes to smoking and health. A real problem exists however, in determining the current extent of smoking amongst nurses and many

issues emerge from a review of the literature. There is in fact a dearth of recent research and a number of the earlier studies of smoking amongst nurses are methodologically weak. Most importantly, inconsistencies have occurred in relation to the various occupational definitions of 'nurse' and of 'smoking status', making comparisons difficult and potentially artificially inflating the true extent of smoking amongst professional nurses.

Secondary analysis of 73 surveys of the tobacco consumption of nurses in 21 countries in the period 1959 - 1988 reveal that considerable numbers of both male and female nurses were smokers (Adriaanse et al 1991). Most studies identify that there were as many smokers amongst nurses as among the general public. Only in Canada and Finland did female nurses appear to smoke less than the population at large. However Adriaanse also emphasises that the majority of studies are methodologically flawed, particularly in relation to sampling issues.

While there have been isolated studies conducted in a range of countries of the world (Harrison 1991; Okada et al 1995), most of the information about the extent of nurses smoking has come from studies within the USA and the UK during the 1980s. The research surveyed nurses and compared the extent of their smoking with the smoking population in general (Swenson and Dalton 1983; Knobf and Morra 1983; Wagner 1985; Feldman and Richard 1986; Spencer 1984). The general consensus from the studies is that since the OPCS (1977) and the USSGSH (1979) reports, a downward trend in nurses smoking has been seen. The fact is however, that recent research into the smoking behaviour of the nursing population has been scarce and has not uniformly kept pace with Government surveys on the smoking population in general. This makes it difficult to determine with any relevant degree of accuracy, the current situation in relation to nurses and smoking.

In investigating the extent of smoking amongst nurses in the USA, Swenson and Dalton (1983) surveyed 1,300 registered nurses in North Carolina and report that 32% were smokers compared with 31% of the general population. These findings indicate a narrowing of the gap between the number of nurses who smoked and a comparable general population of smokers. A number of issues however emerge from the study



which limit the value of the findings. First, the researchers base their findings on a 46% response rate to their survey. In addition, while 601 registered nurses responded to the questionnaire, 44 were not employed in nursing, 94 were not working outside the home and 11 did not answer the question about their position. The sample therefore is such that it is not adequate for generalising to the whole of the population of registered nurses.

The second limitation relates to the definition of smoking status. Current smokers were defined as persons who had smoked more than one tobacco cigarette per day for a period of three months or longer during the last year. According to this definition, if a person smoked two cigarettes or more daily they were classed as a smoker. "Never" smokers were defined as those subjects who indicated that they never averaged more than one tobacco cigarette per day over a period of more than three months. This definition is confusing in that it appears to be possible to smoke one cigarette daily and be classed a "never" smoker. The definition becomes more difficult to accept when "ever" smokers included current smokers, (those who smoked more than one cigarette per day) and former smokers, (those who were ex smokers and had not smoked for at least one year) while "never" smokers, who could smoke on average one cigarette per day, were excluded from this "ever" group. While the researchers infer that there was a decline in the extent of nurses smoking, the study is limited by the low participation rate and the somewhat ambiguous definition of smoking status.

Knobf and Morra (1983) who also surveyed the extent of registered nurses smoking in the USA report a downward trend in the smoking behaviour of nurses. The findings reveal that 25.5% of nurses in Connecticut were current smokers compared to 38.9% reported in the 1976 United States Department of Health, Education and Welfare study. In addition, nurses' smoking rates (25.5%) were reported as being lower than the comparative smoking rates of women (31%) in the general smoking population. The researchers, who used a questionnaire to elicit data from 545 nurses who smoked, initially only achieved a 53% response rate. Acknowledging the importance of sampling in relation to representing the target population, they tried to achieve an 80% response on the smoking non-smoking question through two follow-up postcard mailings. This method yielded a 79.5% response and it was concluded that respondents from the original mailing were representative for both smokers and non-smokers thus limiting sampling

bias and enhancing the reliability of the findings. The findings of this more rigorous study are unfortunately now out of date.

Wagner (1985) surveyed the smoking behaviour of Registered nurses in Western New York and report a decrease in the extent of smoking amongst nurses. When compared with the National survey (USDHEW 1976), the findings identify a higher percentage of "Never" smokers (45%), compared to 40%, a lower percentage of "Current" smokers (28%), compared to 39% and a lower percentage of "Former" smokers (27%), compared to 39%. However, on examination of the report, it is apparent that the study again suffers from a number of limitations. First, Wagner appears to have experienced sampling problems. Although a 5% random sample of the population of 16,125 Registered Nurses were mailed the questionnaire, only 495 completed questionnaires were returned after three mailings, thus yielding a response rate of 61%. To improve the response rate and thus minimise sampling bias the researchers planned to carry out 79 telephone interviews. In fact only 9 telephone interviews were completed and this limits the probability of determining whether the population of non-respondents exhibited similar characteristics relative to the smoking behaviour of the population of mail questionnaire respondents. A further limitation relates to the absence of an operational definition of 'smoker'. The researcher provides no details of the criterion on which to base the smoking status of the sample. In view of these limitations reliability and validity of the findings are questionable.

Feldman and Richard (1986) examined the extent of smoking amongst registered nurses and state that the smoking status of nurses was decreased across all three categories, namely "never smoked" (57.7%), "former smokers" (18%) and "current smokers" (24.3%). A survey design was utilised to elicit data from 823 randomly selected registered nurses in Minnesota. The questionnaire which was mailed to nurses achieved a response rate of 82% and provided a reasonably large scale survey of registered nurses who were smokers. Feldman and Richard included a clear definition of a 'smoker'. A current smoker was defined as a person who smoked cigarettes or other materials on a regular basis. A former smoker was a person who smoked regularly in the past and terminated all smoking behaviour for at least one year.

The characteristics of the sample were compared with nurses nationally, as reported by the American Nurses' Association National Sample for Survey of Smoking (1983). Comparisons across the two groups revealed that, the majority of the percentages were within 1% to 2% thus adding strength to the findings and supporting the conclusion that the sample was consistent with a national sample of nurses. Feldman and Richard report two changes which occurred in relation to the smoking behaviour of nurses. The first relates to the increase in per cent of 'never smokers' and the second is in relation to the decreased rate of 'current smokers'. They base their findings on nurses' self reported quit rate of 42% for the above study compared to 55% in a previous study (ACSRI, 1980). Additionally, in an effort to determine a more accurate response, Feldman and Richard (1986) excluded all quitters of less than one year duration. It is commonly acknowledged that validation of smoking cessation is difficult especially in large studies, and whilst self reporting is not always an accurate report of the state of smoking status (Velicer et al 1992; Etzel 1990), most studies do rely on this method as a convenient measure of determining the extent of smoking behaviour. It would appear that Feldman and Richard were careful to maintain rigor with respect to sampling and definition of a smoker and, in the light of this, the study provides some evidence to support a decline in the number of nurses who were smoking in the 1980s.

More recently a study was conducted in Wisconsin by Mundt et al (1995). The aim of phase one was to identify the prevalence of smoking amongst registered nurses and the aim of phase two was to examine the attitudes of those who smoke in relation to their health and in particular, their professional role. A questionnaire developed by Feldman and Richard (1986) was modified to elicit data from 2000 registered nurses and yielded a response rate of 77% following three mailings, during phase one. The nurses were asked to mark the category best suited to their smoking status: "I have never smoked cigarettes", "I smoke cigarettes now" or "I have successfully quit smoking." The findings revealed that 58% of the sample were never smokers, 27.8% were quitters and 13.5% were current cigarette smokers. While Mundt et al suggest a downward trend in the smoking behaviour of registered nurses, the findings are compromised by self selection and self report of smoking status and should be treated with caution. It is possible that the 23% non- responders were also smokers. This would account for the exceptionally low percentage of smokers reported in this study.

Eighty nine per cent of the nurses who smoked and 97% of quitters completed and returned the phase two questionnaire. This provided data about their perceptions of smoking and the potential effects on their health and professional role. The findings reveal that more quitters than smokers had a relative or close friend with a smoking related illness or who had died, and more quitters identified a personal health concern related to smoking. In fact only 20% of current smokers said that they were willing to accept the health risks of smoking. The report further identifies that while 70% of quitters considered that nurses should be role models, only 38% of smokers felt this was an essential part of their role. Differences were also identified between smokers and quitters in their opinions and attitudes towards helping patients to stop smoking. For example, 78% of nurses who had quit agreed that they should advise clients to stop smoking, whereas only 57% of smokers felt that they should. In addition, 56% of those who had stopped, had at some time helped a patient to quit smoking, while only 38% of nurses who were smokers reported ever encouraging a patient to stop. Clearly these are areas which require deeper exploration, and research must therefore move beyond a purely quantitative approach to data collection to incorporate additional qualitative measures.

The findings in the study provide illuminating insights into nurses' perceptions of the potential effects of their smoking behaviour on their health and professional role as promoters of health. Although the authors do not discuss the findings in detail, they acknowledge that the fact that nurses smoke, is indeed a problem which requires serious attention from the nursing profession, and in so doing they propose an action plan. A detailed description of this plan is beyond the scope of this literature review and can be found elsewhere (Mundt et al 1995).

The situation in the UK appears to follow a similar pattern of a downward trend in the smoking behaviour of nurses. Since the OPCS (1977) data illuminated that a high percentage of nurses smoked, a decline in the number of nurses smoking has been reported (Spencer 1984). There has however, been little focus in this area in recent years.

Spencer (1984) employed a survey design to examine the extent of smoking among 2814 nurses in England and Wales and reports that 40% of the nurses (inclusive of all nursing status) were current smokers and 60% were current non-smokers. These figures support a

downward trend in the extent of nurses smoking, compared with the base figure of 48% (OPCS 1977). However, in view of the low response rate to the questionnaire (56%), the findings are compromised. On examining the report, a number of other methodological issues similar to those identified in the American studies emerge. Spencer does not define a 'smoker' and while he discusses smokers, ex-smokers and non-smokers he does not identify the criterion for determining these categories. The research is also criticised for employing the blanket term of 'nurse'. This included nursing officers, qualified nurses, student nurses, pupil nurses, nursing auxiliaries and nursing assistants. While reporting a downward trend in the smoking behaviour of nurses, a potentially interesting finding emerges when the sample is subdivided into different nursing populations. For example, the level of smoking by the nursing assistants (69%) far exceeds the level of smoking by the other nurses in the sample. This clearly emphasises the limitations of reporting the extent of nurses smoking in combination and illustrates the need for empirical investigation which focuses on the behaviour of separate 'professional status' or 'types' of nurses. Overall, Spencer's study is subject to the same reliability and validity problems as most of the American studies and the results should be interpreted with caution.

Prior to 1981 when the Department of Health and Social Services (Northern Ireland) commissioned a study on the smoking habits of nurses, there were no data on the extent of smoking amongst nurses in Northern Ireland. It would appear that the situation has changed little since that time and there is a dearth of information in relation to the smoking behaviour of nurses in this country. The exception is a small study by Lazenbatt and McEwen (1991) who evaluated the effect of a smoking package and its impact on student nurses' knowledge and skills in the area of smoking-related health education. There are therefore no other data with which to compare the results of the DHSS (1981) study in order to determine either the past or current incidence of smoking amongst nurses in Northern Ireland. The government (1981) survey examined nurses' work patterns and their attitudes towards various aspects of their career. The data suggest that 37% of nurses were current smokers, 24% were ex smokers and 38% were non-smokers. The study is at variance with other UK studies in that only 40% of nurses smoked prior to entering the nursing profession. Booth and Faulkner (1986) claim that 73% of student nurses were smoking more than three years and thus prior to commencing their training.

Similarly, Carmichael and Cockcroft (1990) report that 82% of students were smoking before starting nursing.

In the DHSS (1981) survey a random sample of 458 nurses was drawn from nurses employed in the health boards in Northern Ireland and a response rate of 86.4% was achieved. The sample comprised all grades of nurses from pupil nurses (2%) and student nurses (19%) to state enrolled nurses (15%) staff nurses (24%) and nursing sisters (9%). The remainder were district nurses and community health visitors (32%). The nurses were employed in a variety of clinical environments. Twenty eight per cent were in general nursing, 24% in psychiatric nursing, 14% in surgical environments and the remainder 35% were described as being in "other nursing functions".

The study suffers from the same limitations identified in previous research. First, while the different 'types' of nurse are identified, the findings are presented in combination and it is not possible to determine where the extent of smoking was greatest. Secondly the definition of a 'smoker' has not been made explicit. Thirdly when reporting the reasons why nurses smoke, the findings are also presented in combination and no cognisance is given to the fact that student nurses and qualified nurses may smoke for different reasons. The same situation applies when reporting the reasons why some nurses started smoking again. The findings suggest that when compared with the OPCS (1983) study, the extent of nurses smoking was considerably higher than the general Northern Ireland female population (29%). However the methodological limitations again mean that the data should be viewed with caution. Clearly there is a need to examine the current extent of nurses smoking in this country.

Although in the main, the studies described above support the premise that there has been a decrease in nurses' smoking behaviour since the OPCS (1977) and USSGSH (1979) reports, most of them have used the term 'nurses' loosely, have grouped nurses together for convenience and do not distinguish between important sub-groups. These methodological flaws compromise reliability and validity. The best that can be deduced is that the incidence of smoking amongst student nurses and qualified nurses appears high, and regardless of the potential effects on health, they smoke more or less the same as other women of similar age and socio-economic groups. It is essential however to

address the question of whether the smoking behaviour of sub-populations within the nursing profession, is influenced by such variables as nursing status and clinical specialty. The following two sections attempt to illuminate this area.

### **Prevalence of Smoking in Different Sub-groups of Qualified Nurses**

A number of UK and USA studies which investigated the prevalence of smoking among various sub-groups of nurses are examined in an attempt to determine whether or not professional status and/or clinical specialty influences the extent of smoking amongst nurses. Studies which examined the smoking behaviour of qualified nurses are detailed first. Following these, studies which explored the smoking behaviour of student nurses are addressed. Although few studies have been conducted to determine the extent of smoking within specific sub-populations, there is some evidence to suggest that smoking prevalence is higher in hospital nurses than in community nurses (Tagliacozzo et al 1982; Knobf et al 1983). It would seem that the highest prevalence of active and heavy smoking occurs in nurses employed in psychiatric environments (Spencer 1984) and critical care environments (Dore and Hoey 1988).

Tagliacozzo et al (1982) surveyed 448 Registered nurses in eight hospital departments in the University of Michigan hospital. They report that paediatric nurses had the lowest extent of smoking (12.2%) among all nurses, while psychiatric nurses had the highest (28.6%). In addition 26% of nurses in intensive care units were smokers, as were 25.6% of obstetric nurses, 24.4% of nurses in medical-surgical and 23.8% in surgical departments. There was little difference between the extent of smoking amongst nurses in operating rooms (18.2%) and community health nurses (20.6%). When examining the findings, three issues emerge. First, although 933 questionnaires were mailed, the researchers achieved a response rate of only 49.3%. While it is reported that 19.9% were current smokers and 21% were former smokers, thus suggesting an overall reduction in the extent of smoking amongst nurses, these findings should be treated with caution as the sample may not be representative of the population. Secondly and most important, the report contains inconsistencies. In the methods section it is reported that Registered nurses were drawn from seven departments in the hospital and a surgical department is not included in the list of departments. In the findings section however, it is reported that

eight hospital departments were surveyed and findings are presented for a surgical department. Thirdly, the definition of 'smoker' is confusing. A non-smoker is defined as a person who had not smoked a total of 100 cigarettes. This definition is ambiguous in that it excludes recent smokers who may not have smoked 100 cigarettes at the time of the study but who nevertheless may have commenced regular smoking. The study is therefore subject to serious limitations in relation to reliability and validity thus making it difficult to determine with any relevant degree of accuracy the extent of smoking amongst the Registered nurses in the various clinical environments.

Similarly, in investigating the smoking behaviour of sub-populations of nurses, Dore and Hoey (1988) employed a survey design and questionnaire to elicit data on the smoking behaviour of 822 nurses drawn from two hospitals in Canada. A response rate of 90% was achieved and the report indicates that there was no difference in response rates between the two hospitals. The sample included nurses working in administration, outpatient departments, psychiatric wards, general duty and critical care. Combining data obtained from the two hospitals, the study reports that 22.9% of all nurses were current smokers thus indicating a decrease in the extent of smoking amongst nurses when compared with the general female population of Quebec where it was reported that 29.3% smoked (Canada Health Survey 1981). When the nursing population were subdivided by clinical specialty the extent of smoking was clearly greatest among those who worked in critical care areas, namely intensive care, coronary care, recovery room and emergency room (33%) and less among psychiatric nurses (26%). An interesting finding emerging from this study was that psychiatric nurses smoked less than 'general duty' nurses (27%). This result is at variance with that reported by Spencer (1984) and Tagliacozzo (1984) whose studies infer that nurses working in a psychiatric environment, smoked to a greater extent than nurses who worked in 'general' hospital wards.

Dore and Hoey identify current smokers as those nurses who had smoked more than 100 cigarettes in their lifetime and were still smoking. Former smokers were those who had smoked at least 100 cigarettes in their lifetime and were no longer smokers, and never smokers had smoked fewer than 100 cigarettes in their lifetime. The definition is similar to that used in Tagliacozzo et al's (1982) study and poses the same problem in that it would be possible for an individual to have commenced regular smoking prior to the



study but not have reached 100 cigarettes at the time of the study. Therefore according to this definition, the individual would be categorised as a never smoker and not a current smoker. This ambiguous definition of a 'smoker' again potentially compromises the validity of the study.

Moreover, differences in the extent of smoking among the sub-populations of qualified nurses between the two hospitals are reported. In one hospital, smoking prevalence is reported as higher among nurses in administration and lowest in intensive care units, recovery room and paediatric nurses. When the findings are reported in combination the extent of smoking was highest in intensive care and recovery. The researchers are unable to offer any explanation for this. They do however identify that smoking was more prevalent amongst divorced, separated and widowed nurses (35%) compared to 27% of single women and 17% of married women. This in itself is an important finding which could have been explored more fully. Albeit interesting, the findings are such that they should be treated with considerable caution as they do not provide a comprehensive and detailed description of the smoking behaviour of nurses in clinical specialties.

Becker et al (1986) surveyed the smoking behaviour of 1380 registered nurses in the USA and report that 22% were smoking. This suggests an overall decrease in the extent of nurses smoking when compared with women in the general population (29%). The sample comprised full-time and part-time registered and licenced practical nurses actively employed in all administrative, inpatient and outpatient units of the John Hopkins Hospital. The researchers employed a questionnaire approach to data collection and achieved a final response rate of 80.3% through two survey distributions. This represents a reasonably large scale survey of registered and licenced practical nurses in a hospital environment. While the authors discuss the smoking behaviour of current, former and never smokers, the findings are weakened by the omission of a definition of 'smoker'. Becker et al report that the largest majority of nurses who smoked were employed in administrative positions. Nurses in emergency rooms, general medicine and psychiatry had similar smoking levels and the lowest prevalence of smoking was among paediatric nurses. They do not clarify the percentage of nurses who smoked in each area and it is not possible to determine with a relevant degree of accuracy the extent of smoking amongst nurses in each sub-population. The study is therefore similar to previous studies

in that it provides limited insight into the smoking behaviour of nurses in various clinical areas and thus reinforces the need for more rigorous empirical research in this area.

Haughey et al (1989) confined their study to surveying the smoking behaviour of critical care nurses from a variety of settings. They report that 20% of critical care nurses were smokers, an additional 26% were former smokers and 54% were never smokers. While the findings suggest that the extent of smoking amongst critical care nurses was lower than that reported by Tagliacozzo et al (1982) and Dore and Hoey (1988), they must be treated with caution. Haughey et al do not define what constitutes a smoker and in the light of this the findings are compromised. The sample which comprised registered nurses (n=710) from 29 different states in America, were attending a continuing education programme. A questionnaire was utilised to elicit data and a response rate of 70% was achieved. The sample population of critical care nurses attending a course, may however potentially bias the findings.

While the study is subject to some criticism it does provide useful data about critical care nurses' perceptions of their role as promoters of health. Most agreed (i) that the nurse should help patients who wish to stop smoking to accomplish this (89%); (ii) that it is the nurse's responsibility to actively encourage patients to stop smoking (88%) and (iii) that the nurse should set a good example by not smoking (83%). However despite their apparent enthusiasm for having an active role in helping patients to stop smoking, nearly half of the subjects (46%) believed that their time could be better spent teaching patients other things rather than smoking cessation, and 85% were pessimistic about the extent to which they would be effective in promoting smoking cessation. The reason for the pessimism has not been explored and while the findings may be useful in illuminating the priority given by critical care nurses to promoting smoking cessation, the study does not identify the extent to which these findings reflect the perceptions of the nurses in the sample who smoked. A comparison of attitudes between non-smokers and smokers would have provided some valuable insights into smoking nurses' perceptions of their role as promoters of health in smoking cessation. This area does not appear to have been addressed to any relevant degree in studies thus far.

Sacker (1990) surveyed the smoking rates of 113 nurses and midwives from four general hospitals in Great Britain, to investigate whether there was any difference between the number of smokers in the nursing and midwifery population compared with the national average for females for the same socio-economic group. Sacker reports no significant difference between the extent of nurses smoking (31%) and the national average for females in general (27%, Central Statistical Office 1989). When the nurses and midwives were subdivided into two groups the 'nurses' smoked significantly more than the average female group, whereas the midwives smoked significantly less. The sample included nurses who worked on surgical, medical, and psychiatric wards and on coronary and intensive care units as well as midwives who worked on prenatal, postnatal, and labour wards and in the community. Employing a questionnaire to elicit data the researcher achieved a response rate of 98%. This is an extremely small study (n=35 smokers) and little detail has been provided on the 'nurses' in the study. It would be useful to know whether the extent of smoking behaviour of the 'nurses' as a whole, was greatly influenced by any particular 'type' of nurse or any particular hospital but the sample is too small. Sacker's study suffers from a number of weaknesses, and the value of the findings are limited.

Only two studies could be found which report on the smoking pattern of nurses who work with clients who have a learning disability. When examining the smoking behaviour of nurses in various clinical settings within England and Wales, Spencer (1984) reports an extremely high prevalence of smoking (57%) among nurses in a learning disability environment. In fact they were identified as the second largest smoking group in the sample, following psycho-geriatric nurses who constituted the largest smoking group (67%). Spencer fails to identify the 'types' of nurses who work with patients who have a learning disability and also omits to define a 'smoker'. Moreover, the sample drawn from the learning disability environment only comprised 37 nurses. In view of the methodological weaknesses inherent in the study the findings should be treated with caution and cannot be considered as representative of the sub-population.

Munchow et al (1985) who surveyed the smoking behaviour of 413 staff (nursing and non-nursing) employed in a Learning Disability sector claim that 38.7% of all nurses were current smokers. This figure was lower than 57% reported by Spencer (1984). The

researchers utilised a questionnaire to elicit data and although an overall response rate of 71% was achieved, the study is fraught with reliability and validity problems and the findings should be treated with caution. First, an operational definition of a 'smoker' is omitted from the study. Secondly, 'types' of nurse are not identified and the umbrella blanketing of 'nurses' provides limited insight into their smoking behaviour.

Little is known about the extent of smoking amongst nurse teachers. A number of writers have discussed the role of the training establishment in maximising positive health behaviours among student nurses (Spencer 1982; Haughey et al 1986; Kudzma, 1988; Casey et al, 1989) but in general, there is a dearth of empirical data pertaining to the smoking behaviour of nurse teachers. In fact only two studies were identified which looked to some degree at this area.

Ward and Faulkner (1983) examined the attitudes of nurse tutors with regard to smoking and health education. The researchers surveyed nurse tutors in three health authorities in England. The aim of the study was to obtain data on the knowledge, attitudes and teaching activity of nurse tutors in relation to smoking and health education. In comparing the attitudes of nurse tutors with those of students in a previous study, they report that there was no significant difference between nurse tutors and student nurses with regard to knowledge of smoking, identification of teaching opportunities and application of teaching skills. A questionnaire which comprised items specifically generated for a sample of nurse teachers was utilised to collect data. The questionnaire included questions concerned with time spent on teaching specific to health education, and the skills required for the nurse to fulfil a health education role. A number of issues emerge from this study. First, the questionnaire yielded a response rate of only 55% thus the small sample size (n=19) makes extrapolation and generalisation inappropriate. Secondly, despite the aim of the study which was to examine nurse tutors' attitudes with regard to smoking and health education, the authors have not detailed the smoking behaviour of the sample and it is not known how many of the 19 nurse tutors actually smoked. The study is thus seriously limited.

Blakey and Seaton (1992) investigated the smoking behaviour of 52 nurse tutors and 649 student nurses in Scotland and report that 1 in 4 tutors (25%) and 1 in 3 (33.1%) student

nurses were current smokers. A questionnaire which achieved a response rate of 88% contained questions on various aspects of smoking, including questions relating to the smoking behaviour and history of the respondents. The study also included questions on the knowledge of effects of smoking on health, and attitudes towards the possible role of nurses as promoters of health. The authors report that while both groups, tended to smoke when tense and when in the company of friends, tutors smoked at home and over coffee. In general these findings are common to most smokers, and only suggest that nurses' smoking behaviour is no different to that of corresponding groups in the population of smokers. In relation to the effects of smoking on health, Blakey and Seaton state that both groups perceived smoking as very harmful to health. The study lacks detail in reporting results and it is not possible to distinguish between the percentage of smokers and non-smokers who responded to the questions. The findings suggest that overall tutors were less inclined to offer advice to patients about smoking than students. This may of course be due to the fact that nurse tutors would normally have less contact with patients than students nurses, rather than an unwillingness to participate in promoting health. However there is a lack of further detail about this and the issue is not discussed in the report. Despite making a useful contribution to the issue of the smoking behaviour of nurse tutors, the findings of Blakey and Seaton's study are somewhat limited.

In summary, the above studies present a conflicting picture of the smoking behaviour of sub-groups of qualified nurses. This position has been exacerbated by methodological weaknesses which have compromised the quality of the data and leaves one without a comprehensive and detailed description of the smoking behaviour of nurses in the various clinical specialties. The extent of nurses smoking within these areas or where the problem is most prevalent can not therefore be determined with a relevant degree of accuracy. There is clearly a need for more rigorous studies and a multi-method approach to data collection.

A number of studies have been conducted which have looked also at the smoking behaviour of student nurses. These are discussed in the following section, but as will become apparent, most of the studies are also methodologically flawed.

## **The Prevalence of Smoking Among Student Nurses**

Studies examining the extent of smoking among student nurses are described below. First the research undertaken in the UK is reviewed. Very few studies of student nurses smoking have been conducted outside the UK, thus one survey conducted in Canada and another in Japan are examined. Where appropriate, the findings of the nurses smoking studies are compared with studies examining the smoking behaviour of adolescents in the general smoking population.

Booth and Faulkner (1986) utilised a survey design and questionnaire to examine the smoking behaviour of 563 student nurses in four schools of nursing in north-west England. The findings indicate that 36.4% of the sample were current smokers, showing slightly lower smoking rates than the 38% reported for females aged 20-24 years (OPCS 1986). In addition the authors report that 73% of current smokers in the study had been smoking for over three years. Since 95% of the sample were enrolled in basic nurse education at the time of the study, they conclude that the majority of nurses were smoking prior to commencing nursing. The findings suggest that student nurses smoke no more or no less than other females of a similar age and social status in the general population of smokers and, as a group do not take up smoking as they progress through their training.

The study is however compromised in several ways. First, the response rate has been omitted from the report, and there is no detail with respect to the number of nurses that responded to the questionnaire. Secondly, the study is subject to potential sample bias in that data collection took place within schools of nursing and it is possible that this may have had an influence on the number of cigarettes reported by the student nurses. Thirdly, while the researchers provide a definition of a 'smoker' they preclude those who smoked less than seven cigarettes a day. The study does however provide some evidence to suggest that most student nurses who smoke begin smoking prior to coming to nursing.

Elkind (1988) compared the extent of smoking amongst student nurses and student teachers in England and reports that 33% of student nurses compared with 16% of student teachers were smokers at entry to their training. Collectively the student nurses' smoking rates reflected general population trends among young females of a similar age group at

that time. When the student nurses were divided into nursing 'types' according to training, 46% of pupil nurses and 37% of general nursing students smoked. These findings indicate an increase in the prevalence of smoking among 'pupil' nurses and 'student' nurses when compared with the general female population (27%) in socio-economic group II (OPCS 1986). When comparing the extent of smoking with females aged 20 - 24 years (38%) however, student nurses' smoking rates are more or less comparable, while the extent of smoking amongst pupil nurses remains considerably higher. When student nurses were subdivided into specialty, only 11% of paediatric student nurses were smokers, thus illuminating the importance of identifying where the problem is most prevalent within the nursing profession.

Elkind's study, which was longitudinal in design, employed questionnaires and interviews to obtain data from 69 student nurses at a school of nursing and 36 student teachers at a college of education during their first year of training. The study therefore moved away from relying solely on the questionnaire as a method for eliciting data. The questionnaire was distributed at entry to training and yielded a response rate of 100% from student nurses and 88% from student teachers. It is possible that the 12% of student teachers who did not respond to the questionnaire may also have been smokers, thus consideration should be given to this when interpreting the findings. The interviews which were conducted during their introductory course or induction term elicited data about social origin, type of school attended and smoking history of self, family and friends. Responses were compared with the baseline questionnaire data.

In determining the extent of smoking among the populations sampled, Elkind is more careful than some when defining 'smoker' and describes smokers as both regular and occasional. A 'smoker' is defined as an individual who is currently smoking cigarettes at any level of consumption. An 'occasional' smoker is one who does not smoke every day, while a 'regular' smoker smokes one or more cigarettes per day. A 'non-smoker' is defined as someone who is not smoking any cigarettes at all. The researcher has endeavoured to be rigorous in the approach to the study and thus the findings should represent a more reliable account of the smoking behaviour of the student nurses and student teachers in the sample. The study illuminates the value of empirical explorations which utilise both a questionnaire and interview approach to data collection. A number of

important issues are raised which relate to factors influencing smoking including occupational stress. These will be explored later on in the Chapter.

Another study, (Carmichael and Cockcroft 1990) surveyed the smoking behaviour of 368 student nurses in a London teaching hospital. They report a higher prevalence of smoking amongst student nurses (43%) than reported in previous nursing studies. In fact the extent of smoking among the nurses was considerably higher than that reported for young women smokers in the general population of smokers (39%) within the 20 - 24 age group (OPCS 1990). A questionnaire which was distributed to all student nurses undergoing 'general' nurse training yielded a response rate of 95% after three mailings. Consistent with Booth and Faulkner's (1986) findings, the majority of students (82%) commenced smoking prior to starting nurse training. Eighteen per cent took up the habit after commencing nursing and a further 18% of ex-smokers resumed smoking during training. Carmichael and Cockcroft provide a wide definition of 'smoker' in that a smoker was one who admitted to smoking "at all nowadays", thus they include all occasional smokers. This may have been one of the reasons that a higher smoking rate amongst students was recorded.

One of the more recent UK studies to examine student nurses' smoking behaviour was conducted by Blakey and Seaton (1992). The findings suggest that 33.1% of the sample were current smokers. This is considerably lower than 37% reported for females aged 20-24 years in the general smoking population during 1992 (HEMS 1995). A survey design was employed and a postal questionnaire was distributed to student nurses and pupil nurses in the Grampian area. A response rate of 95% was achieved with 649 student and pupil nurses returning the completed questionnaires. The report however lacks detail in relation to the balance in sample size between pupil nurses and student nurses in the study. This is an important omission since general smoking studies have identified lower educational achievement amongst adolescents as being one of the antecedents to commencement of smoking (Nutbeam and Aaro 1991). A comparison of the sample size of pupil nurses and student nurses should also have provided useful information on the 75 per cent of 'students' in the study who started smoking prior to commencing their nursing career. This percentage is significantly higher than 33% found in Elkind's (1988) study, and corresponds closely with 73% reported by Booth and Faulkner (1986). However, a



definition of a 'smoker' is not provided and these findings should be treated with some caution.

West and Hargreaves (1995) who surveyed the extent of smoking among 117 female and 29 male student nurses undertaking registered general and registered mental nurse training in London, report that 34% of the sample were smokers. This figure is higher than the 28% reported by HEMS (1995) for "all smokers" in the general smoking population but lower when compared with all smokers aged 21-25 years (37%). This emphasises the importance of comparing nurses' smoking behaviour with comparable groups in the general smoking population. The findings however are seriously compromised in that male and female student nurses' smoking rates are in combination thus it is not possible to compare the smoking rates of young female student nurses with young females in the general smoking population. Neither is it possible to compare the extent of smoking amongst young male nurses with those of young males generally. This comparison should have given a more relevant result based on sex, age and smoking status.

It would also appear that the researchers experienced some sampling problems in that while they employed a postal questionnaire to elicit data from 252 student nurses, a response rate of only 58% was achieved. The low response rate is acknowledged by the authors who report that possible biases resulting from non-responding were examined by comparing responses of 115 nurses who completed the postal questionnaire, with 31 students who were recruited by visiting their residence or through seminars. However once again no detail is given with respect to the criterion used for determining a 'smoker'.

Consistent with findings from previous studies, the majority of students who smoked (90%) were smoking prior to coming to nursing, thus providing further evidence to support the opinion that student nurses' smoking behaviour may be no different to that of other adolescents who smoke. While it would seem that the experience of nurse training has little influence on actually initiating smoking, it may be, that within nursing there is an environment wherein the smoking behaviour of student nurses is sustained and consequently relatively few appear to give up.

West and Hargreaves further examined the health beliefs of the student nurses, to determine if there was an association between increased awareness of the negative effects of smoking as training progressed and giving up. It would appear, that while smokers as a group acknowledged to the same extent as non-smokers, that smoking causes premature death and disabling disease, there was no evidence that decline in smoking was associated with an increasing acceptance of the health risks of smoking, as students progressed through training.

It is apparent from the research reviewed, that no consistent pattern emerges in relation to the extent of student nurses smoking in the UK. Rates vary from study to study and interpretation of the data is complicated by the range of sample sizes, the response rates, the 'type' of nurse the student is training to be, and the definition of a 'smoker'.

Very few studies of student nurses smoking have been undertaken outside the UK. Harrison et al (1991) who examined the smoking patterns of 2104 student nurses enrolled in 33 Canadian nursing schools outside Quebec report that 30% of student nurses were current smokers. This figure was similar to current smoking trends in young Canadian women in the general population. Employing a questionnaire to obtain data, a response rate of 80% was achieved among the student nurses. Additionally student focus groups were conducted with six groups of student nurses who were in their final year. Consistent with UK findings (Booth and Faulkner 1986; Blakey and Seaton 1992), the majority of student nurses began smoking prior to commencing the course, and only 10% started smoking during nurse training. While these findings support the UK studies, they are limited by similar methodological issues such as omission of an operational definition of a 'smoker'.

The questionnaire data identifies that the typical student nurse in the study was 26.8 years old, while the average age of students in the focus groups was 31 years. This factor should be taken into consideration when attempting to compare the smoking behaviour of Canadian student nurses with that of student nurses in the UK studies, who in general are considerably younger. However with regard to the central focus of the study which was to examine the extent of student nurses' smoking behaviour, there is a close similarity in

findings between this Canadian study and the other UK studies. The research is enhanced by the use of both quantitative and qualitative methods of data collection.

In general, little is known about the smoking behaviour of student nurses elsewhere in the world. Okada et al's (1995) study, provides some insight into the incidence of smoking in Japan. The researchers who utilised a survey design and questionnaire to examine the extent of smoking among 1472 female student nurses report that 17.7% were current smokers compared with 16% of the general female population. The figures suggest that the extent of smoking amongst females in Japan and nurses in particular, is lower than that reported in the United Kingdom. There is however a consistency with other studies in that student nurses appear to smoke no more or no less than females in the general population. Where Okada et al's findings differ from those reported in the majority of UK studies, is in relation to the increase in cigarette consumption as students progress through student nurse education. The findings identify that 13.2 % of first year student nurses were smoking, 22.3 % of second year students currently smoked and by the time the student nurses reached the third year of their training 23.1% were regular smokers. The study however is fraught with problems similar to those already identified. The first criticism is that the authors do not detail the response rate to the questionnaires. Secondly they do not define a 'smoker', and thirdly there is a lack of information in relation to the percentage of students who were smoking prior to entering nursing. In view of these weaknesses the findings are limited and the study does not provide a comprehensive account of the smoking behaviour of the sampled population of student nurses in Japan.

Examination of previous literature on nurses and smoking reveals significant gaps and deficits. There is a need for rigorous up-to-date research on the extent and pattern of smoking amongst student nurses. Studies are required which allow comparison of student nurses' smoking behaviour with students in general and in particular female students, to determine if they smoke more than other students of their age. There is also a need for rigorous up to date research which compares 'types' of qualified nurses' smoking patterns and clinical specialty. Despite the limitations of previous research, there is some evidence to suggest that the incidence of smoking amongst student nurses and qualified nurses remains high. A number of explanations have been offered and these are discussed below.

## **Factors Influencing Student Nurses' and Qualified Nurses' Smoking Behaviour**

In attempting to illuminate the reasons why many nurses smoke, the majority of research studies to date seem to have focused on nursing and stress, peer and social influence, and educational attainment. A number of studies focusing on these issues and pertaining to student nurses and qualified nurses are examined. Few studies have endeavoured to make a relevant link between nurses' smoking behaviour and gender issues and thus general studies pertaining to this area are also reviewed in an attempt to explain why nurses smoke.

### **Stress**

Paramount among the reasons given for the high incidence of smoking amongst nurses, is the suggestion that smoking is a coping mechanism against stress caused by the nursing environment. According to Lazarus (1976), stress occurs where there are demands on the person which tax his/her adaptive resources. Stress therefore depends on the external conditions (the environment) and also the resources of the person. Lazarus believes that the external conditions themselves are not stressful, but rather they must be perceived as being so by the individual. While a number of nursing studies support this theory (Leathar 1980; Tagliacozzo and Vaughn, 1982; Murray et al 1983 and Elkind 1988), conflicting findings are reported in studies carried out by Spencer (1984), Booth and Faulkner (1986), Cinelli (1986) and Cinelli and Glover (1988).

Leathar's (1980) study investigated the reasons underlying the smoking behaviour of 93 Scottish nurses of all grades. He centres the report around student nurses, claiming that they hold the key to the problem of nurses smoking. Leathar recognises that student nurses were subject to all the normal pressures of young people leaving home at an early age, such as having to make friends, coping with a totally new working environment and boyfriend trouble. Despite acknowledging that they were no different to adolescents in general, the study focused on understanding nurses' smoking in relation to stress specific to nursing. Participants were encouraged to identify particular areas of difficulty within this area, such as death, night duty, a rigid authority structure and responsibility problems. Leathar concludes that in order to cope with stress incurred in the nursing environment,

informal friendship groups were formed among student nurses and cigarettes were used as a symbol of friendship and mutual trust. The design of the study employed in-depth interviews, each lasting at least one hour. It is not clear how many students were in the sample and once again the term 'smoker' is not defined. The findings are therefore limited in value.

Despite these criticisms, the study endeavours to provide some insight into nurses' perceptions of their health and professional role. It appears that student nurses were not ignorant of the potential effects of smoking on their health. Instead they dissociated self from the potential risks and did not perceive them as a threat. In addition, while most student nurses accepted that their smoking influenced the care they offered to patients, the right to personal freedom outside the ward figured very highly in the study, with most nurses resenting the image of perfection often associated with the nurse. Leather reports that in order to understand the reasons why nurses smoke, it is necessary to study smoking within a wider context and this includes examining how young students adapt to their environment, how the system trains them and understands their problems and how they deal with a totally different world at a relatively early and sensitive age.

Booth and Faulkner (1986) moved beyond the questionnaire data obtained from 563 student and pupil nurses and employed in-depth interviews with 22 student nurses and pupils nurses to determine some of the factors associated with smoking. The interview data reveal that over half of the smokers in the sample (58.3%) and (55.5%) of ex-smokers perceived worry, stress or tension as contributing to their smoking behaviour. Despite this, it is interesting to note that very few (4.4%) of current smokers reported specific nursing situations as being associated with increased smoking. In fact only 9 of the 22 nurses mentioned nursing at all and 4 of these appear to interweave nursing with outside factors in their lives. The in-depth interview data was obtained from 10% of the questionnaire respondents and enhances the richness of the findings. The findings are not dissimilar to those elicited by a later study (Elkind 1988) and add weight to the view that while nurses use cigarettes as a coping strategy for the stressful situations they encounter in their everyday lives, their smoking behaviour should be considered in a wider context than that of the nursing environment alone. This is further suggestive of the importance

of utilising in-depth qualitative methods to explore the reasons behind nurses' smoking behaviour.

As previously detailed, the study by (Elkind 1988) included a survey of 43 undergraduate student teachers and 69 learner nurses during their first year of training. The aim of the study was to establish the extent to which the smoking behaviour of student nurses and teachers at entry to training, could be understood in relation to factors which underlie the initiation of smoking. The findings reveal that significantly more student nurses than student teachers felt that smoking was a good way to relieve stress. The design of the study included a baseline questionnaire administered at commencement of training. This was followed by an interview during the induction term, three further questionnaires distributed during the first year of training and a second interview. During the induction term the sample as a whole were asked an open question about the benefits of smoking. Pre-eminent among the student nurses and the student teachers (smokers and non-smokers alike), was the idea that smoking relieved stress (52%). This was followed by relaxation (15%), enjoyment (14%), sociability (10%) social confidence (7%), weight control (7%) and other reasons (8%). The author reports that at the beginning of training, student nurses (11.5%) were more likely to perceive the reduction of negative effect as being the most important reason for smoking, while this was a less important motive among the student teachers (5%). Additionally, data elicited from questionnaire three suggest that the situation did not change as students progressed through training. The concept of stress was further explored during the second interview and it appears that both nurses and student teachers experienced significantly greater frequency of stress symptoms in the practical environment than in the academic environment. It could be argued, that as student nurses spend considerably more time in the practical environment than do student teachers, this may be the most useful position from which to draw inferences when comparing the extent of stress experienced by student nurses and student teachers. While Elkind concludes that stress among student nurses is a serious issue, it would appear that patterns of smoking behaviour may be established at entry to training and therefore the role of stress in the explanation of nurses smoking should be considered in the context of a much wider set of influences. Overall the findings are enlightening and the study is enhanced by data obtained from interviews, thus providing a deeper insight into student nurses' perceptions of stress.

In examining the smoking behaviour of student nurses, Carmichael and Cockcroft (1990) report that stress, greater opportunity to smoke and peer group behaviour influenced student nurses to commence or increase smoking during training. A questionnaire approach to data collection achieved 95% response rate. The report of the findings lacks detail. First, there is no indication as to the percentage of student nurses who perceived "stress" or either "greater opportunity" or "peer influence", as influencing them to commence or increase smoking. In fact it is not clear how the researchers came to their conclusion as a question asking students their reasons for smoking is not included in the report, neither is this area addressed in the discussion. Considering that the study was conducted as a preliminary to a three year intervention project to reduce smoking levels and to prevent smoking commencement among student nurses, it lacks rigor and the findings and discussion are limited. While it is important to identify that 27 nurses (18%) began smoking after coming into nursing and a further 12 nurses (18%) ex-smokers recommenced smoking, it is equally important to examine the reasons why 125 (82%) of those in the study who smoked, were smoking on entry to nursing and additionally, what percentage of the 77 (62%) of those who increased smoking did so because of stress, or because of peer friendship. It is interesting that after an extensive search no further detail could be found with respect to an intervention having been carried out by Carmichael and Cockcroft and it might be inferred from this, that the study did not extend beyond the preliminary phase as described above.

A number of other studies examined the smoking behaviour of qualified nurses to determine whether there is an association between a stressful nursing environment and nurses' smoking behaviour. Tagliacozzo and Vaughn (1982) who surveyed 933 registered nurses in seven hospital departments report that nurses who perceived their job as stressful were more likely to smoke than nurses who did not. Dissatisfaction with the rewards of the job, and in particular with the salary, was widespread and strongly felt among the nurses who smoked, whereas the effect of personal and situational variables was not significant. The findings further indicate that nurses most likely to perceive the physical and emotional demands on them as stressful, were under 29 years and single. The authors acknowledge the need for further research to explore whether smoking among younger nurses is a mechanism for coping, or whether younger nurses who smoke are simply more likely than older nurses to perceive work situations as stressful. This

study has been subject to previous criticism based on the sampling response (49.3%) and the ambiguous definition of smoker. In view of the flaws inherent in the study discussed previously, the findings should be interpreted with caution.

Spencer's (1984) survey of the smoking behaviour of 1577 nurses in two health authorities in England and Wales attempted to determine whether smoking was related to stress in the nursing environment. The sample comprised all types of qualified nurses, student nurses and nursing assistants. The results reveal that although nurses did find particular parts of their job stressful, most coped well with this stress. Therefore the idea that either the feelings of stress associated with particular nursing tasks, or the ability to cope with the stress, is connected with cigarette smoking was not supported by his evidence. In fact the findings identify that more non-smokers (55.5%) felt stressed by patients dying, than did smokers (46.8%). In all other activities the amount of stress felt by smokers and non smokers was very similar thus the popular opinion that nursing, cigarette smoking and stress are connected, may not be supported.

Cinelli and Glover (1988) surveyed the smoking behaviour of 299 registered nurses in Pennsylvania. The purpose of the study was to examine the level of professional nurse training of nurses who smoked, the effect of social factors on the initiation and reinforcement of smoking in the workplace and home, and the impact of occupational stress on smoking behaviour. They report that occupational stress was not significantly related to the smoking behaviour of nurses, but in fact the strongest predictor for smoking amongst nurses was the number of friends who smoked. To survey the nurses an adaptation of the Job-related Stress and Smoking Behaviour Questionnaire developed by Tagliacozzo and Vaughn (1982) was employed. The questionnaire which was revised to include other sections such as career history, smoking history, personal data and nurse job stress index, yielded a response rate of 49%. These findings must be viewed with caution given the low response rate and the unusual definition of smoker. A current smoker was defined as an individual who smoked more than one tobacco cigarette a day for a period of 3 months or longer during the past year. No explanation is given as to why individuals who smoked one cigarette a day were excluded from the study.



In general, studies which have examined the reasons why nurses smoke seem to identify that the nursing environment is potentially stressful. However, they have failed to comprehensively demonstrate that stress in the workplace is the main reason why so many nurses smoke. Findings have been compromised by the same methodological inconsistencies identified in the previously described studies, which attempted to determine the extent of smoking amongst nurses. It would seem that in the main, researchers have failed to look at the wider issues surrounding nurses' smoking behaviour. This is particularly important, in view of the apparently large number of nurses who are smoking prior to commencing their nursing career.

The majority of studies have not to any great extent, explored the potential influence of peer and social influence on nurses' smoking behaviour. There is clearly a need to address this area.

#### Young People's Peer/Social Influences on Smoking Behaviour

A few studies have alluded to the fact that the smoking behaviour of nurses is influenced by peers who smoke. These will be reviewed alongside studies carried out among young adolescents in general, and females in particular who smoke.

Murray et al (1983) surveyed hospital nurses of all grades to determine whether certain aspects of their environment could explain their smoking practices. They report that the most popular reason for starting smoking was social influence. The authors also examined the smoking practices of family and friends and report that nurses' smoking prevalence was significantly associated ( $P < 0.05$ ) with parents and friends who smoke. Thirty one per cent of nurses who smoked had both parents who were smokers, 38.9% had nursing friends who smoked and 33.3% had other friends who smoked. The sample comprising 313 nurses included both student nurses and qualified nurses. A questionnaire approach to data collection was utilised and yielded a response rate of 79%. The questionnaire elicited information on (i) sociodemographic details; (ii) smoking practices of the participants and their family and friends; and (iii) a measure of perceived job characteristics. This required the respondents to rate a series of 13 items describing particular characteristics of their job on a 5 point scale. The study however suffers from a

series of "don't know" and "no response" questions and thus reliability and validity are seriously compromised. In fact in several of the questions, the number of nurses who failed to respond, actually exceed the number of nurses who responded appropriately. Despite Murray et al's inferences, the missing data makes it difficult to conclude comprehensively that social influence was the major reason for starting smoking.

Blakey and Seaton (1992) employed a survey design and questionnaire to elicit data on the reasons why student nurses smoke. Achieving a 95 per cent response rate, they report that 75 per cent of student nurses in the study who smoked (n=649), commenced smoking before the age of 18 years and that relatively few had given up during their training. Eighty two per cent of the students stated that they tended to smoke more when with a friend, suggesting that there is a peer/social influence attached to the maintenance of the smoking behaviour of student nurses. This mirrors studies of adolescents' smoking behaviour in general.

Van Roosmalen and McDaniel (1992) investigated the smoking behaviour of 1689 adolescents in the general population in Canada. The findings also indicate that the peer environment was a crucial factor in the smoking behaviour of both female and male adolescents. A 'smoker' is defined as one who either experimented with or smoked on a regular basis, a 'non-smoker' is defined as one who had never smoked or had tried smoking only once and a 'quitter' is defined as one who previously smoked regularly, or had experimented with smoking but no longer did so. Self reports of smoking status were validated by analysis of saliva for cotinine levels. It would seem that the researchers have been rigorous in their approach to exploring the effects of peer influence on the smoking behaviour of young adolescents, when compared with previous nursing studies which have addressed this issue more weakly.

Similarly, Fergusson et al (1995) claim young people who show an early predisposition to cigarette smoking, also show clear tendencies to affiliate with like-minded peers and in turn, peer affiliations during adolescence have been shown to be one of the strongest and most consistent predictors of cigarette smoking. Self-report data on the smoking behaviour of 1256 children in New Zealand were based on reports of the smoking behaviour of their friends, using the definitions, 'most', 'some' and 'none'. Parental

reports were based on an assessment of the extent to which the young person's friends encouraged smoking behaviours, employing the definitions, 'a great deal', 'a little' and 'not at all'. The findings in the study demonstrate that children who began to smoke prior to 13 years showed a tendency to continue at 16 years and that early smoking experimentation and smoking at 16 years was related to peer affiliations.

The authors further report that 40% of males and 43.7% female students had many friends who were smokers, and that both males (56.6%) and females (62.4%) smoked more often when they had a best friend who smoked regularly. When potential peer influence was compared with potential familial influence, there was an overall higher proportion of adolescents who smoked when peers smoked, than when family smoked. When examining the respondents' intentions to smoke in one year, a positive correlation was found for both males and females, between respondents intentions to stop in the future and the smoking habits of their best friend. For example 78% of male smokers reported that they would not be smoking in one year, however, when examining the data of those who had a best friend who smoked regularly, only 42% stated that they would not smoke one year hence. Similarly 76.1% of female students reported that they would not be smoking in one year, but in fact this was reduced to 35.3% when they had a best friend who smoked regularly. Additionally, among respondents with many smoking friends, the intention to continue to smoke regularly, was higher in females (57.1%) than in males (21.7%).

It is clear that the dynamics of the peer environment is a crucial factor in both male and female adolescent smoking initiation and subsequent smoking behaviour. It would appear that the stronger the friendship bond, the less determined students are about stopping smoking. An interesting finding in this study relates to the extent of expressed intention to continue to smoke by young female students (57.1%). This suggests that while friendship bonds are clearly a major factor in the smoking behaviour of both male and female adolescents, there are wider issues which require further exploration with respect to young female adolescents who smoke and in particular student nurses. The study offers important insights into the power of the relationship of peer and social influence on the smoking behaviour of adolescents in general and females in particular.

Exploring the smoking behaviour of adolescents in Great Britain, Diamond and Goddard (1995) report the findings of a large scale survey carried out by the Department of Health (1994). The study examined the smoking behaviour among secondary school children in England, Scotland and Wales. Similar to the above studies, the findings identify that in all three countries there was a clear association between pupils' smoking behaviour and that of their friends. In England 75% of regular smokers and only 5% of pupils who had never smoked said all, or most of their friends, smoked. In Wales the percentage was similar, with 71% of regular smokers and 4% of pupils who had never smoked stating that most of their friends smoked. Likewise, in Scotland 73% of regular smokers and only 3% of pupils who had never smoked, claimed all or most of their friends were current smokers. The studies support the peer 'bonding' that exists among adolescents who smoke.

Along with the excellent response rates achieved by the questionnaires, (92%, 91% and 90% respectively) saliva specimens for cotinine measurements were collected to enable some validation of the self-reported smoking data. An operational definition of smoker facilitated a more accurate comparison of smoking behaviour among pupils in the three countries. Overall the design of the study is such, that the reliability of the findings are enhanced and a comprehensive account of adolescent smoking behaviour is provided.

In general, studies which examined the reasons why adolescents smoke, contribute to an understanding of the smoking behaviour of students per se. These findings therefore provide a useful backdrop to the research which examines student nurses' smoking behaviour. Previous studies identified that a large majority of student nurses commence smoking prior to coming to nursing and, in the main few give up as they progress through training (Booth and Faulkner 1986; Carmichael and Cockcroft 1990). It would seem that once friendship networks formulate within nursing, the smoking behaviour of the student nurse is confirmed and maintained. Thus it would appear that the reasons why student nurses smoke, are similar to those of other adolescents in the general smoking population.

A variety of authors have endeavoured to link nurses' smoking behaviour and educational attainment. In discussing the formal level of education necessary to enter nursing, MacGuire (1980) asserts that it has never kept pace with the requirements for entry to

other professions, for example teacher training. Moreover, Koski (1978) and Coutts (1979) suggest that academic attainment may influence occupational differences, in that nurses who train in academic institutions tend to have a lower than usual prevalence of smoking. A number of studies examined the level of education of the student nurse and 'type' of training, to determine if in fact it does have any influence on the number of nurses that smoke.

### Level of Education and Type of Training

Harris et al (1987) surveyed the smoking behaviour of 204 student nurses in two models of nurse training in Australia and report that while fewer nurses smoked in the hospital based training (31%), compared to the college based student nurses (38%), there was no statistically significant difference between the extent of smoking amongst student nurses within the two groups. Consistent with previous findings from nurses' smoking studies, 75% of the student nurses began smoking before they commenced training. Harris et al concludes that the factors which lead most student nurses to smoke, lie in their experiences prior to nursing and not in the nature or location of their training programme. A questionnaire was utilised to elicit data from the student nurses and a response rate of 93% was achieved, thus strengthening the reliability of the findings. While the study is criticised for the omission of a definition of a 'smoker' the findings would seem to suggest that educational attainment is not a factor which influences the smoking behaviour of student nurses to any great extent.

An interesting issue emerges from the data in that, when nurses were asked to list reasons for giving up smoking, not one nurse mentioned the need to set a good example to patients. The authors provide no further detail on this, and it is clearly an area which requires further empirical research.

Similarly, Rausch et al (1987) examined the smoking behaviour of senior student nurses enrolled in diploma, associate degree and degree programmes, within 11 nursing schools in the state of Alabama. The findings indicate that there was no statistically significant difference in smoking prevalence between levels of nursing education. The overall prevalence of smoking among the nurses in the sample was 26%. While some interesting

issues emerge from the study surrounding nurses' compliance with preventive health behaviours, the findings are seriously compromised. First, despite the low response rate of 32%, the authors do not offer any explanation of their attempts to minimise potential bias. Secondly, the researchers fail to provide a definition of a 'smoker'. The findings should therefore be viewed with great caution.

In contrast to the previous two studies, Elkind (1988) compared the smoking behaviour of a group of student teachers and a group of student nurses. Elkind claims that differences in education contribute to occupational variations in the smoking behaviour of both groups of students. The findings demonstrate that more student nurses (33%) were smoking at entry to their training than were student teachers (16%). However, while a correlation is suggested between lower educational attainment and smoking behaviour, the reliability of the findings may have been influenced by the fact that 11 of the nursing students (16%) had been previously employed in the hospital. Thus the prevalence rates may have been affected by the process of socialisation and not reflective of educational attainment alone. This further demonstrates that there is a need for studies of nurses' smoking to be viewed within the context of the general population..

While authors have offered a variety of suggestions about why nurses smoke, these ideas are not substantiated. The majority of the research undertaken in this area lacks rigor and is methodically flawed. There are conflicting explanations involving stress in the workplace, lower educational attainment and peer and social influence. Given that the majority of nurses are female, it would seem important to consider the smoking behaviour of nurses in the context of gender (Graham 1993).

### Smoking and Gender Issues

From the studies presented, it is clear that although the smoking behaviour of nurses has attracted a degree of interest, most studies have done little to unravel the issue of nurses smoking. Adriaanse et al (1991) suggest that research into nurses smoking should be based on comprehensive designs, taking into account life-style variables as well as variables characteristics for the work environment. This corresponds with Graham (1989) who stresses the need for qualitative studies which explore the place of smoking in the

lives of women, especially women with dual roles. Graham's (1993) study demonstrates how smoking was associated with breaks from caring, where women rested and refuelled. Since nursing is predominantly a female profession, it seems reasonable to expect that similar in-depth studies which explore the place of smoking in the lives of female nurses may illuminate why seemingly rational health professionals continue with seemingly irrational health behaviours.

In comparing the differences between women and men's smoking behaviour, researchers suggest that women are more motivated to smoke for pleasure and reduction of negative effect (Livson and Leino 1988; Graham 1993). Livson and Leino (1988) obtained data from 109 men and women, in an attempt to determine gender and psychosocial differences pertaining to motive for smoking. The frequency of 6 commonly found motivation factors for smoking identified as, Reduction of Negative Effect, Habit, Addiction, Pleasure, Stimulation and Sensorimotor Manipulation were evaluated. Livson and Leino report significant gender differences for two smoking motives- Reduction of Negative Affect and Pleasure and suggest that women more than men smoke for these reasons. They suggest that there has been a societal modification in women's roles during the past few decades, with women tending to be more in the workplace. Despite this change, they have had minimal relief from the 'traditional' burden of maintaining the home and rearing the children and thus they smoke for relief of stress and pleasure.

Graham's (1993) in-depth qualitative study develops this theory. She explored the link between cigarette smoking and dimensions of mothers' everyday lives. Graham found that cigarettes were associated not only with the maintenance of normal caring routines but were also part of the way women coped with breakdown in these patterns of caring. The study which was longitudinal in design employed interviews to obtain data from 905 mothers. The mothers were interviewed in their homes when their baby was 6 months old. Graham suggests that smoking is deeply embedded in the past and present lives of many mothers in working class households. She acknowledges the fact that self-reported data may potentially reflect subjective assessments of caring responsibilities, material circumstances and smoking status. In general however, the findings illuminate the association of smoking with women's normal routine of living and provide important

insight into the role that cigarettes have in relieving stress in women with caring responsibilities.

Issues of gender have also been identified as being of considerable importance in explaining the disparity of career opportunities afforded to female nurses compared to the male population of nurses (Porter 1992). Porter implies that this practice has put considerable stress on the female sector of the profession but there is a lack of empirical evidence. While epidemiological research points to the importance of understanding the links between women, social class, educational status and smoking (Graham 1989; Jacobson 1986), few studies have looked in-depth into the relationship between women's smoking, their employment status and their domestic responsibilities (Graham 1989). The lack of systematically collected data in studies of nurses' smoking has also hindered analysis of nurses' smoking behaviour, and reinforces the necessity of measuring all variables, including those specifically related to gender.

### **Summary**

In summary, this review of the literature demonstrates that there is limited up to date information about the extent of nurses' smoking behaviour. The reasons why they choose to initiate and maintain this unhealthy lifestyle behaviour have not been systematically addressed. This deficit is compounded by the fact that the majority of research focusing on nurses has not kept pace with studies which have concentrated on the general smoking population as a whole. It is therefore difficult to determine whether the extent of nurses smoking is still comparable with that of women in general and/or adolescents in particular. The studies focusing on nurses do not, for various reasons provide a comprehensive account of the perceptions of nurses who smoke in relation to the effects of smoking on their health and in particular on their role as promoters of health. In fact only a minority have addressed either one or both of these even tangibly. Studies have tended to be small, outdated and have clumped 'nurses' together, often failing to differentiate between qualified nurse, student nurse and nursing auxiliary. The mixed findings may reflect the questionable reliability of data collection tools.



It is also clear from the literature reviewed, that nurses have not been targeted as a group for focused health promotion interventions, especially in relation to stopping smoking and little is known about the experiences of nurses who smoke or attempt to give up. Clearly the health promotion image projected by smoking nurses needs to be addressed, particularly in the context of effective health promotion smoking cessation interventions with patients and clients. The extent to which this issue has been addressed by empirical enquiry to date, provides the focus for the following Chapter.

## **CHAPTER TWO**

### **SMOKING CESSATION: THE PRACTICE THEORY GAP**

#### **Introduction**

It is evident from the material covered previously, that studies exploring the extent of smoking amongst nurses have not uniformly kept pace with studies in the general smoking population and little is known about their attempts to give up. The extent to which this question has been addressed by empirical work, is the subject of this Chapter. The empirical research which focuses on health professionals' approaches to changing smoking behaviour is presented and some limitations highlighted. A very small number of studies have attempted specifically to assist nurses to change their smoking behaviour and these are explored and the need for further research in this area is identified and examined.

#### **Smoking Cessation Interventions**

A variety of smoking cessation intervention programmes are available to encourage smokers to change their smoking behaviour. These range from mass media campaigns to individualised approaches to helping people to stop smoking. In view of the magnitude of the problem it has been frequently reported that health professionals should maximise their role as promoters of health. It is suggested that physicians should provide advice about smoking as a regular part of every patient visit (Saizow 1991; Richmond 1994) and that dentists and pharmacists have a useful role in giving advice about stopping smoking (Chestnut and Binnie 1995; Gauén and Lee 1995; Ellsworth 1996; Newton and Palmer 1997). In particular it is suggested that nurses are in an ideal situation to help patients to stop smoking (Macleod Clark et al 1987; Padula 1992). Studies are examined in order to determine the extent of health professionals' health promotion interventions pertaining to smoking cessation.

## **The Extent of Health Professionals' Smoking Cessation Interventions:**

While there is no shortage of rhetoric extolling the role of health professionals in helping individuals to stop smoking, little is known about the impact of their smoking cessation interventions. In discussing approaches to smoking cessation, Fowler (1982) suggests a minimal intervention approach to be used by health professionals and general practitioners in particular in helping patients to stop smoking. Thus advice about smoking should include: (i) information about the health hazards of smoking; (ii) emphasis on the benefits of stopping smoking; (iii) assessment of motivation; (iv) a plan to include a target for stopping; (v) advice on ways to prepare for stopping; (vi) advice on how to cope with difficulties after stopping; and (vii) a warning about the dangers of relapse and an explanation of the need for follow-up. Fowler concludes that all smoking patients should routinely be targeted employing this approach.

Studies examining the smoking cessation interventions carried out by doctors are detailed and the empirical data on interventions delivered by dentists and pharmacists are examined. Following this the research looking at nurses' smoking cessation interventions is reviewed.

### **Smoking Cessation Interventions Delivered by Doctors**

While the attributes of successful smoking cessation in medical practice have been much debated (Mullen et al 1991; Townsend et al 1991; Saizow 1991), the effect of advice given routinely during general practice consultations in helping people to stop smoking is uncertain. In the main this is due to poorly evaluated interventions and a variety of methodological flaws which affect the reliability of the findings. One study which attempted to move beyond short-term, invalidated reports of smoking cessation, and incorporated additional long-term evaluation measures, is subsequently considered in some detail.

Richmond (1994) reports the results from a series of three controlled trials which evaluated the efficacy, effectiveness and implementation of interventions in general practice for smokers. She claims that brief advice delivered by the general practitioner

yields about 12% abstinence at one year follow up, while more involved intervention results in quit rates of around 20% at two years and 36% at three years. Study one was an efficacy study and was designed to answer the question: "Does the intervention work in general practice under the optimum controlled conditions?" Study two was an effectiveness study and was designed to answer the question: "Does the intervention work widely in general practice?" Study three was an implementation study and was designed to answer the question: "Is the intervention taken up, adopted and maintained over time in general practice?"

The first study was conducted in a general practice in Sydney. It comprised 200 smoking patients, opportunistically selected when the smoker attended the practitioner for medical advice. The patients were assigned to one of two groups. One group (n=100) received a brief but multicomponent behavioural change intervention, consisting of six visits to a General Practitioner over a 6 month period. These comprised one assessment, one patient education and four follow-up visits. The control group (n=100) received no intervention. The groups were followed up at 6 months and three years following the intervention to assess smoking cessation outcomes. Richmond reports that 23% in the intervention group and 2% in the control group had continuous abstinence rates when evaluated at three years. The fact that self-reports of abstinence were biochemically validated using cotinine and carboxyhemoglobin, enhances the reliability of the findings and thus in the light of these results it would seem that brief interventions delivered by GPs to smoking patients, may be substantially effective.

Study two compared the effectiveness of three smoking cessation interventions when used by 26 GPs and found that the point prevalence abstinence rates at 6 months were 21%, 20% and 18% and at one year were 19%, 18% and 12% respectively. Continuous abstinence rates for one year however, were 9%, 9% and 6%. The sample comprised 450 participants randomly allocated to the following groups. One group (n=200) received the Smokescreen programme similar to that used in the first study, plus they were offered nicotine gum. Another group (n=150) received the programme described for study 1 alone, and the third group (n=100) received brief advice from a GP, with nicotine gum as an adjunct and two follow up visits 3 and 6 months later. The study however suffers some limitations which impair the findings. For example, a discrepancy is identified in

the amount of time stipulated for GPs to deliver the brief advice intervention and that which occurred in practice. The brief advice protocol of less than two minutes, had a mean of eleven minutes and, in fact five patients received up to thirty minutes of advice. In view of this breach of protocol there was a trend for more moderately brief interventions to produce more abstainers (19% and 18%), than those who received brief advice (12%). While the focus of the study, which was to compare the effectiveness of three different interventions, is potentially impaired, it does illuminate the valuable input that GP's advice can have on the smoking behaviour of patients.

Richmond's third study moved away from focusing on evaluating the effectiveness of the smoking cessation interventions, to evaluating the role of workshop training and reinforcement feedback, in the use of the Smokescreen programme by GPs. Following attendance at a training workshop of 2 hours duration, 168 GPs were randomly allocated to either follow-up contact or no contact. The results of the study demonstrate that ongoing support produced greater GP utilisation rates at 6 months (84%), compared with no contact after a training workshop (52%). However GPs were inconsistent in the records they kept, with respect to the names of each patient who joined the study, thus exact patient recruitment numbers (mean and range) could not be given.

Despite the criticism, it is clear from the above longitudinal studies that general practitioners have an important role in the smoking cessation process and that GP led interventions are effective in helping a number of patients to give up smoking. It would appear however, that in the main they under utilise their role and intervene with only a small proportion of their smoking patients (Roche et al 1996). Few efforts have been directed toward understanding why many doctors seemingly do not raise the subject of smoking with their patients. Clearly this is an area requiring further exploration.

### Smoking Cessation Interventions Delivered by Dentists

Determining the smoking behaviour of dentists and the extent of their health promotion role, is also problematic. While it seems to be an acceptable general belief that those in the dental and medical professions do not smoke in great numbers and are suitably placed to carry out smoking cessation interventions with patients and clients (Christen 1984;

Garfinkel and Stellman 1986; Glynn 1988; Magnus 1989), more recent evidence is required before this concept can be definitely determined and generalised. In surveying the smoking cessation role of Scottish dentists, Chestnut and Binnie (1995) report that of a sample of 448 dentists, only 5.6% were currently smoking. These findings are compromised however, in view of the fact that smoking status was based on self-reports of smoking status. The study clearly suggests that in spite of the profession's challenge for its members to be proactive in tobacco intervention, dentists do not maximise their health promotion role. While just over 50% perceived they had a role in advising patients about smoking cessation, a greater proportion (32.1%) of those who currently smoked were certain that dentists did not have a role to play in counselling patients on tobacco use. This was in comparison with 18.9% of non-smokers who did not see this as being within their remit. Turning to the actual provision of smoking cessation advice, 50.2% claimed that they only occasionally provided advice and 13.8% stated that they never advised patients to give up smoking.

More recently, Newton and Palmer (1997) also report that while dentists and oral health professionals are in an ideal position to help patients cut down or stop smoking, many seem reluctant to do so. Four reasons are highlighted. First, the sample perceived they lacked time. Secondly they feared that such an intervention would alienate the patient. Thirdly, they felt that providing advice on smoking cessation was not a legitimate role for a dentist and fourthly, they lacked training in this area. Clearly further studies surveying both the extent of smoking amongst this group of health professionals and exploring the impact of their smoking cessation activity with patients and clients are needed.

### Smoking Cessation Interventions Delivered by Pharmacists

Similarly, the expanding role of pharmacists in patient counselling and smoking cessation advice has been well documented in recent years (Hudmon and Berger 1995; Baluch 1995; Gauwen and Lee 1995; Ellsworth 1996). It is argued that pharmacists are easily accessible, approachable and can offer prompt advice on a large variety of smoking cessation aids. Discussing their potential for helping smokers quit, Hudmon and Berger (1995) suggest that pharmacists should use the transtheoretical model (DiClemente and Prochaska 1982) to categorise clients by their stages of change and devise and deliver

appropriate and individualised interventions. To date, no studies have been found which demonstrate the use and effectiveness of such an approach by this group of health professionals and in the main little is known about the extent of their smoking cessation activity.

Gauen and Lee (1995) discuss a smoking cessation programme at a managed health care organisation and the involvement of pharmacists in a multiprofessional team. The role of the pharmacist is clearly identified as the expert for advising on the various smoking cessation aids. The researchers state that 29% (401) of the clients who received nicotine-placement therapy were still abstinent at one year. However, of the total who became non-smokers (600), this represents less than 1% of the approximate 75,000 health group enrollees who smoked. The report omits to include what measures were used for recording smoking cessation outcomes. Thus, while it would seem that in this instance the contribution of the pharmacists was indeed beneficial, generalisations can not be made as to the effectiveness of their role. Further research is essential to provide knowledge in this area.

It is a recognised fact that stopping smoking is exceedingly difficult. The addictive properties of nicotine, the association of stress reduction and smoking, the perceived variety of pleasurable attributes and the pairing of smoking with weight, have all been identified to varying degrees as potential reasons behind the continuance of this seemingly unhealthy lifestyle. Thus many smokers who stop smoking during cessation programmes, relapse soon after leaving them (Stachnik et al 1981). In general, smoking cessation programmes have been criticised for their uniformity of recruitment and intervention, and an overall lacking in an individualised approach to helping individuals to maintain smoking cessation. A number of authors have discussed the necessity of enhancing an individual's confidence in one's ability to remain abstinent in a given situation. (Eiser et al 1985; Horwitz et al 1985; Macleod Clark et al 1987). This does not mean that stopping smoking is easy, but it does suggest that many individuals have resources that if applied properly, can be a major factor in maintaining smoking cessation. In view of this it is clear that smoking cessation interventions by health professionals, and nurses in particular, should be tailored to the individual needs of the smoker.

### Smoking Cessation Interventions Delivered by Nurses

A minimal intervention approach, was adopted and modified by Macleod Clark et al (1987). The framework was based partly on the Health Belief Model (Becker 1974) and partly on the nursing process which encourages an individualised approach to care. It is therefore a useful framework on which nurses should base their health education interventions. It differs substantially from the minimal approach suggested by Fowler (1982), in that a heavy emphasis is placed on the assessment of each individual's knowledge and needs. Thus the intervention in terms of information giving and advice is tailored to the patient's and client's particular situation, with subjects identifying their own coping strategies in an attempt to maintain smoking cessation. Employing this approach, Macleod Clark et al evaluated the outcome of 16 nurses' health promotion interventions with a sample of 68 patients who smoked. The nurses comprised ward nurses, health visitors and midwives. Forty two patients (62%) were followed up at one year to assess smoking cessation outcomes. The results biochemically validated by measuring urinary cotinine levels, identified that 7 (17%) of the patients had stopped smoking. A further 5 (12%) had cut down the number of cigarettes they smoked. While the sample in this study may appear small in comparison with other types of smoking cessation intervention programmes, the findings illuminate its appropriateness for exploratory interventions based on an individualised approach. A clear definition of smoker is given and in view of this and the objective verification of smoking status, the reliability and validity of the study are enhanced.

Similarly, a small study using the same approach (Macleod Clark and Rowe 1993) was carried out in an acute coronary care ward. The sample comprised 20 patients who had experienced a myocardial infarction or a severe attack of angina and desired to stop smoking. Ten patients volunteered to participate in an individualised smoking cessation intervention. Another ten patients volunteered to enrol in the study but did not wish to participate in the intervention and they were allocated to a reference group for comparison of smoking cessation outcomes. The intervention group yielded a 75% continued successful smoking cessation outcome when evaluated at 2 years. The results were biochemically validated by measuring cotinine in samples of saliva. Conversely, none of the patients in the reference group stopped smoking. The very positive findings from



studies of nurses' attempts to help patients and clients give up smoking, using a minimal individualised smoking cessation intervention, have important implications for nursing practice.

A study which assessed the effectiveness of Fowler's minimal intervention approach to smoking cessation is reported by Sanders et al (1993). The aim of the study was to assess long-term predictors as well as short-term predictors of successful smoking cessation following advice from primary care nurses. The findings indicate that 82 subjects (11%) in the intervention group had stopped smoking at one month and that 97 (13%) had stopped at one year. The study was conducted in eleven general practices in the Oxford region. The sample comprised 4330 smokers who were randomly allocated to intervention or control groups. The control group subjects received the usual care as given by their general practitioners. The intervention group subjects were invited by their GP to make an appointment to see the practice nurse for a health check, described as a routine check to assess blood pressure and weight and to discuss general health. It appears however that the researchers experienced some retainment problems, in that only 25.9% (n=751) of the patients randomised to the intervention group made and kept an appointment. Using Fowler's criteria as described above, the health visitors rated the smoker's motivation and likelihood of stopping smoking. This was based on the data received through discussion with the respondent during the health check. Sanders et al employed a postal questionnaire to follow up smokers at one month and one year. The questionnaire comprised questions about present smoking status, and for those who were continuing to smoke, whether any attempts had been made to stop. In recording smoking cessation outcomes the researchers relied on self reporting of smoking behaviour and in view of this, and other methodological issues, reliability and validity are compromised and the findings should be treated with caution.

In general, it would appear that minimal intervention studies do provide a useful framework on which health professionals and in particular nurses should base their smoking cessation interventions with clients. Despite this, only a minority of them maximise opportunities to assist individuals to stop smoking.

## **Smoking Cessation Interventions for Nurses**

In the previous Chapter the extent of nurses smoking was illuminated. Additionally, the role of the nurse as a promoter of health was considered. It has been suggested however, by a number of authors that smoking by nurses may actually impede their ability to help patients to stop smoking (Dalton et al 1986; Stillman et al 1994). Despite this concern, very few studies have focused on smoking cessation interventions which assist nurses to stop. The research undertaken to help qualified nurses stop smoking will be examined in this section. Subsequently, the studies carried out to assist student nurses to stop will be reviewed.

### **Assisting Qualified Nurses to Stop Smoking**

The difficulty of motivating and engaging nurses in a worksite smoking cessation programme is reported by Brown et al (1987). The study, which took place in a university hospital in New York was designed to evaluate whether or not competition amongst nursing groups would be an effective way of recruiting nurses into a worksite self-help, quit smoking programme. All registered nurses, both smokers and non-smokers (n=835), employed in a variety of clinical specialties were invited to participate in the competition. A prize of a free meal was offered to all members of the winning team, having the highest number of smokers enrolled for the quit smoking programme. The study however appears to have suffered serious recruitment problems in that during the two week period of the competition, no nurses (either smoker or non-smoker) called or came into the programme. A number of issues emerge from this study: (i) while the theory behind inviting non-smokers to participate in the competition was reported primarily to be one of encouragement to the smokers, conversely it could have been seen as a form of coercion in that a reward was offered to the team with the greatest number of smokers enrolled in the programme; (ii) smokers may also have perceived the reward as pressure to conform, which may have accounted for the adverse effect to the competition; (iii) the design of the programme with its wide advertising of the successful team including those who would enrol in the quit smoking programme, may have engendered anxiety in relation to the perceived ability to both stop smoking and maintain smoking cessation. It is clear that the design of the study was fraught with methodological

difficulties and the study only highlights the need for a rigorous and appropriate approach to helping nurses to change their smoking behaviour.

Gritz et al (1988) recruited 149 registered nurses into a self help smoking cessation programme which was worksite oriented. They report that 22.5% of the sample stopped smoking at one month, 21.5% at 6 months and 19.5% at one year. The continuous abstinence rate (quit at one, six and 12 month follow-ups without relapse) was 12.7%. The sample which was drawn from 15 hospitals only achieved a response rate of 46% and because of a lower than expected accrual rate, a control group was not included in the design of the study as originally planned. Instead all respondents received the intervention. The single group design limits the possibility of assessing the impact of the intervention.

Each nurse who volunteered to participate in the intervention, was provided with an American Lung Association smoking cessation manual and an American Lung Association maintenance manual, supplemented by three manuals targeted specially for nurses. In assessing smoking cessation outcomes, the researchers employed a questionnaire mailed at one month, and supplemented by a telephone interview. Telephone interviews were also carried out at 6 months and one year post intervention, to elicit data on nurses' long-term smoking behaviour. At each of the three follow-up stages, saliva samples were measured for levels of cotinine and concentration of thiocyanate, thus objectively verifying self-reporting of smoking status and enhancing reliability and validity. The authors report that only 52% of nurses used the cessation manual during the 12 month post intervention period and an even smaller number (20%) used the maintenance manual during the same period of time. Two issues emerge from this study. One is indicative of the difficulty in recruiting nurses to participate in a smoking cessation programme. The second relates to the importance of selecting an appropriate programme for the particular client group. It would seem that the majority of the nurses were motivated to stop smoking. The baseline motivation mean score was 3.2 when measured on a scale of 1 to 4, with a scale of 1 equating to "not motivated at all" and 4 equating to "very motivated".

### Assisting Student Nurses to Stop Smoking

Very few studies have focused on helping student nurses to stop smoking. A study conducted by Royce et al (1990) report preliminary findings at six months of a four-year, two cohort, longitudinal study of nursing students. The aims of the study were: (i) to increase the number of nurses who counsel people to stop smoking; (ii) to encourage nurses to act as advocates for non-smoking policies and (c) to reduce smoking among student and graduate nurses. Twenty per cent of student nurses in the intervention group self reported having stopped smoking at six months follow up. A pre-test, post-test experimental design was utilised. The sample comprised students from twelve schools of nursing. Students from six of the schools (n=343), were allocated to the intervention group and students from the other six schools (n=254) were allocated to the control group. A questionnaire was employed pre-intervention to elicit baseline data on sociodemographic information, smoking status, attitudes, beliefs, career plans, stress, and smoking cessation counselling and advocacy experiences. The baseline smoking status was verified by analysis of saliva cotinine with a cut off level of 20 ng/ml. However, in view of the fact that only 5 of 607 year one students had cotinine levels that did not match their self-reported non-smoker or ex-smoker status, a decision was made not to biochemically verify smoking status post intervention. Post intervention follow ups were conducted at 6 months and 18 months by mail or telephone.

The intervention included a two and half hour workshop, employing a lecture and discussion format and presenting information from a nurses' smoking cessation manual developed for the project. Quarterly health promotion newsletters were also made available and each school was given written materials to establish a health promotion resource area. Whilst smokers were offered referrals to existing smoking cessation groups and techniques, only two student nurses requested this assistance. In addition, with the exception of one school that requested no-smoking literature, the newsletter and resource area did not stimulate any active or visible school-wide smoking awareness. In the light of this, the authors report that a more concentrated focus was given to smoking cessation counselling and advocacy for no-smoking policies, and less emphasis was given to reducing smoking among the nursing students. An important issue emerges in relation to the central focus of the study. It is suggested from the baseline data that 62.2% of the

nurses were motivated to give up smoking. In view of this, and also the fact that there was a low uptake of assistance, this is an area which requires further in-depth exploration. The fact too that smoking cessation outcomes were not biochemically verified compromises reliability and validity and the findings should be considered with caution. Although an intensive literature search has been carried out, no further report on this study has been obtained, thus the outcome in relation to smoking cessation at one year, or for the year two cohort group cannot be determined.

A second study conducted by Okada et al (1995), investigated the short term effectiveness of a smoking prevention programme for student nurses. They report that 55.4% of the occasional smokers in the subject group at pre- test, were non-smokers at the follow up test compared with 32.1% of the comparison group. The study was conducted in a College of Nursing in Japan. Drawn from a sample size of 1900 female students, 966 were allocated to the programme group and 934 to the comparison group. The programme consisted of an 80 minute lesson and advice for smokers, together with an accompanying booklet. Self administered multiple choice questionnaires were employed to elicit data concerning smoking behaviour, personal habits of the people around them, knowledge of the effects of smoking, attitudes toward smoking and, satisfaction with and the burden of, student life. These were distributed 1-2 weeks prior to the programme, 1-2 weeks post test and 6 months follow-up test. The study however is limited by lack of further detail pertaining to the questionnaire response rate at the specified times of data collection.

In addition, despite the fact that the researchers' aim was to determine the effectiveness of the smoking prevention programme for student nurses, little detail is given about the smoking status of the habitual smokers pre and post- test. The researchers report that the percentage of the habitual smokers (defined as smoking 30 or more cigarettes per week) at pre-test in the programme subject group, was almost the same as the percentage in the comparison group at follow up. No further detail is provided and without an explanation of how many nurses were habitually smoking pre and post test, the findings lack clarity and the reliability and validity of the study is impaired.

Furthermore Okada et al report that 94% of non-smokers in the programme group at the pre-test continued to be non-smokers at the follow up test, compared with 95% of non-smokers in the comparison group. Similarly, the study does not detail how many non-smokers were in the study. In general, the researchers appear to base the effectiveness of the programme on the findings derived from the 'occasional' smokers data. As no operational definition is given for occasional smoker, it is assumed that if an habitual smoker is one who smokes 30 or more cigarettes a week, and a non smoker is one who smokes no cigarettes per week, then an occasional smoker must be one who smokes less than 30 cigarettes a week. In the absence of a clear definition and also in the absence of biochemical verification of smoking cessation, the findings in this study should be interpreted with caution. Without further detail, and particularly in view of the fact that 24.6% of the pre-test occasional smokers in the programme group had become habitual smokers at the follow up test, it could be argued that the authors' assertion that the programme had a significant effect on the smoking behaviour of the occasional smoker is questionable. Overall the findings are vague and the study contributes little to the understanding of nurses' smoking behaviour and in particular to determining effective smoking cessation programmes for nurses.

There is clearly a dearth of research on attempts to help nurses stop smoking. This applies to both qualified nurses in the clinical area and student nurses in colleges of nursing. While a minority of studies are available, they suffer from similar methodological issues as those of the general nurses' smoking studies, thus the reliability and validity of these findings are also impaired. A serious issue which emerges from examination of the studies relates to the potential inappropriateness of the intervention. This was highlighted in Gritz et al's (1988) study and most importantly in Brown et al's (1987). A second issue relates to the lack of sustained focus on helping nurses change their smoking cessation as identified in Royce et al's (1990) study. A third issue relates to the lack of theoretical underpinning on which to base the smoking cessation intervention. In view of this, there is clearly a need to implement and evaluate smoking cessation programmes designed to help student nurses and qualified nurses change their smoking behaviour.

## Summary

The studies focusing on health professionals' smoking cessation interventions, suggest that they are in a strategic position to routinely employ a minimal approach to smoking cessation. Thus they have the potential to make a considerable contribution to the smoking behaviour of patients and clients. In general however, they do not appear to maximise their role in this area (Richmond 1994; Chestnut and Binnie 1995; Newton and Palmer 1997). Moreover, from the relatively few studies available, it is clear that smoking cessation outcomes vary to a considerable extent ranging from around 12% (Richmond 1994) to 75% (Macleod Clark and Rowe 1993). It is suggested that this may be due to the design of the programme, with the more effective of these employing supportive measures as an adjunct to advice.

It is also clear, that in the main, empirical research on smoking cessation lacks rigor, particularly in relation to evaluating smoking cessation outcomes. Despite the fact that continuous measurements are considered to be the most appropriate method of evaluating smoking cessation (Pallonen et al 1992; Velicer et al 1992) the majority of reports do not include interim measurements at six months. This makes it difficult to determine abstinence rates with a relevant degree of accuracy. Many researchers rely on self reporting and report smoking cessation outcomes at an early stage of the cessation period. More reliable reports are provided by Gritz et al (1988) who objectively verified smoking cessation at 1 month, 6 months and one year and Macleod Clark and Rowe (1993) who biochemically validated abstinence at 6 months, one year and two years. Additionally the efficacy of Macleod Clark and Rowe's study appears to be the theoretical underpinning. Thus the framework which is based on the motivation, health beliefs and self-efficacy of the individual also incorporates the identification of coping strategies which the individual can employ in times of temptation to smoke.

The literature reviewed in this Chapter indicates that there has been little sustained focus on nurses as a target group for smoking cessation programmes. It would seem from the few intervention studies accessible, that nurses' intervention studies lack focus and theoretical underpinning. In view of this, there is clearly a need to implement and evaluate smoking cessation programmes designed to help student nurses and qualified

nurses to change their smoking behaviour. The following Chapter examines theories of behavioural change and in particular focuses on the relevance of the transtheoretical model of change to smoking cessation.



## **CHAPTER THREE**

### **THE LIMITATIONS OF SMOKING CESSATION INTERVENTIONS**

#### **POSSIBLE THEORETICAL EXPLANATIONS**

##### **Introduction**

In general, it would appear that the vast majority of smokers who enrol in intervention programmes continue to smoke. Various theories of psychotherapy have emerged and a number of interpersonal models have been developed in an effort to analyse the individual and determine why people do not change their smoking behaviour. One such model often used to explain health behavioural change is the Health Belief Model and the theory that an individual's behaviour depends on two factors, (i) the value placed by a person on a particular goal and (ii) the individual's estimate of the likelihood that a given action will achieve that goal (Becker 1974; Janz and Becker 1984). Similarly, another theory frequently employed to illustrate why people do not readily change seemingly unhealthy behaviours, relates to self efficacy and behavioural change. This theory suggests that people tend to avoid activities that they believe exceed their coping capabilities, but undertake and perform positively, those that they judge themselves capable of managing (Bandura, 1977a). In more recent years, the transtheoretical theory of behavioural change has encouraged the concept of smoking cessation to be viewed more as a process than as a dichotomous product. The theory proposes that two interrelated dimensions are needed to adequately assess behaviour modification of smoking. The first dimension named the stages of change, represents the temporal, motivational and constancy aspects of change (DiClemente and Prochaska, 1985). The second dimension called the process of change, incorporates ten processes which focus on activities and events that create successful modification of a problem behaviour (Prochaska et al 1988). The following section will consider the above theories as possible theoretical explanations underpinning the limitations of smoking cessation interventions.

## **The Health Belief Model of Change**

The fundamental components of the Health Belief Model (Becker 1974) are derived from both psychological and behavioural theory which hypothesise that an individual's behaviour depends upon two factors, (i) the value placed by a person on a particular goal and (ii) the individual's estimate of the likelihood that a given action will achieve that goal. Thus in conceptualising these variables in the context of health related behaviour, there is a desire to avoid illness, or if ill, a desire to get well. Additionally there is a belief that a specific health action will prevent or ameliorate illness. In making the decision to change behaviour, the individual therefore accepts both the threat of illness and the likelihood of being able, through personal action to reduce that threat.

The health belief model consists of the following dimensions: (i) perceived susceptibility - referring to a person's subjective perception of the risk of contracting a condition; (ii) perceived severity - referring to feelings concerning the seriousness of contracting an illness or of leaving it untreated; (iii) perceived benefits - the individual's acceptance of personal susceptibility to a condition which is believed to be serious and acceptance of the recommended health action, if it is perceived to be feasible and beneficial and (iv) perceived barriers - the potential negative aspects of a particular health action which may act as impediments to undertaking the recommended behaviour. Thus it is inferred that the combined levels of susceptibility and severity provide the energy or force to act and the perception of benefits (less barriers) provides a preferred path of action. In addition, the model proposes the necessity of some stimulus or "cue to action" in order to trigger the decision making process. Such triggers may be ill health symptoms creating a health scare (internal force) or interpersonal interactions and communications from health professionals - external force (Becker 1974; Janz and Becker 1984).

Janz and Becker (1984) critically reviewed 46 health belief model related studies. The studies which were both prospective and retrospective were conducted prior to and during the period 1974-1984. The authors report that in 24 of the studies "perceived barriers" proved to be the most powerful of the health behaviour model dimensions across the various study designs, with "perceived susceptibility" being the second. It appeared that only 50% reported significance levels for "perceived severity" and from this it was

concluded that "perceived severity" is a low concept with relevance to the area of preventive health behaviours, but conversely, is of greatest prominence to individuals when diagnosis of an illness has been established. However, despite the abundance of literature which links the health belief model dimensions to health actions, it is important to acknowledge that it is a psychosocial model and as such is limited to explaining health related behaviours in the context of attitudes and beliefs.

Galvin (1992) discusses some of the limitations of the health belief model in conceptualising smoking behaviour and its cessation. The model proposes that in perceiving the threat of disease generated from the individual's perception of its severity, a group of modifying factors serve to condition the individual's perceptions of susceptibility, severity and benefits of taking action. These are identified as: (i) demographic and sociopsychological characteristics, as well as knowledge and prior experience of disease; (ii) cues from health care workers, other individuals and the media, about the importance of the threat of the disease, including social pressure; (iii) complexity, duration, difficulty and side-effects of the treatment regime; (iv) attitude variables and satisfaction with health care delivery and (v) interaction variables such as the quality and type of patient-carer relationships. Therefore the health belief model seems to imply that attempts to influence the behaviour of patients should be based on a detailed knowledge of their motives and health beliefs. Galvin contends that a diversity of forces other than those identified by the health belief model can influence health behaviours, and that while the model may have some relevance to smokers it does not for example, take into consideration such variables as the physiological factors associated with nicotine or the social, environmental and economic factors which can prevent smokers from taking health action. The author suggests that in general the health belief model is limited in its application to smoking cessation and that empirical research into such complex behaviours as smoking, needs to address an array of such variables.

### **The Theory of Self Efficacy and Behavioural Change**

There has been much discussion about the application of the theory of self efficacy to smoking cessation and relapse (Lichtenstein 1982; Marlatt and Gordon 1985; Baer et al 1986). It is popular opinion that judgements of self efficacy (confidence) determine how

much effort people will expend, and how long they will persist in the face of difficulties. Studies have demonstrated that when problems arise, people who are lacking in efficacy portray serious doubts about their capabilities and often give up altogether, even though they know what to do. Conversely, those who have a strong sense of efficacy, adopt coping responses and exercise greater determination to achieve their goal (Bandura 1977; Bandura and Schunk 1981; Baer et al 1986).

Baer et al (1986) investigated the extent to which self efficacy contributed to the ability to resist smoking at the end of a smoking cessation programme and throughout the follow up period in a sample of 69 men and 77 women. The confidence levels and abstinence rates were measured at one, two three and six months. The authors report that efficacy ratings are useful predictors of relapse, particularly when assessed during the maintenance phase of treatment. For example, the one month confidence ratings averaged 9 on a scale of 10 among the subjects who were abstinent. However the researchers were unable to determine when exactly this level was reached. Different scales were used for the end of treatment and the one month follow up assessments and comparisons were not possible. Baer et al report that overall efficacy ratings among the abstinent subjects during the follow up phase did not increase over the 6 month period but were in fact predictive of relapse at the two months follow-up phase. They are unable to offer an explanation for this and suggest that perhaps after two months of abstinence, self-efficacy ratings reflect the degree to which the stress of quitting has or has not subsided and active coping continues to be necessary.

Similarly, a major component of Macleod Clark et al (1987) and Macleod Clark and Rowe's (1993) framework is the identification of coping strategies in an attempt to prevent relapse. The studies (previously described) indicate that subjects who were successful in maintaining smoking cessation, demonstrated a higher level of confidence at the post intervention follow-up phases when compared with those who continued to smoke. Furthermore when comparing pre and post intervention confidence levels, there was an increase in the degree of confidence from "fairly sure" to "very sure" in a number of the subjects at 6 weeks. This was maintained at 3 and 6 months in the clients who were successful in maintaining smoking cessation (1993). It is clear that methods such as that suggested by Macleod Clark et al (1987) and Macleod Clark and Rowe (1993) which

encourage the building of self efficacy in clients who wish to stop smoking, should be included in smoking cessation interventions.

In discussing the attributes of smoking cessation interventions, a number of authors contend that variation in cessation rates may have more to do with differences in smoker selection than in intervention methods themselves (DiClemente et al 1991; Prochaska 1992; Richmond 1994; Grimley 1994). Thus, Richmond suggests that the transtheoretical model as developed by Prochaska et al (1986) is a valuable model for interpreting smokers' decisions to stop smoking.

### **The Transtheoretical Model of Change**

#### **Stages of Change**

The transtheoretical model of change, posits a series of changes through which smokers move as they successfully change their smoking behaviour. These are named as the precontemplation, the contemplation, the action and the maintenance stages and were first identified in a study comparing smokers quitting on their own, with smokers in two smoking cessation treatment programs (DiClemente and Prochaska 1982). A fifth stage, between the contemplation and the action stages and labelled preparation for action, was identified and validated some years later (DiClemente et al 1991; Velicer et al 1992). A key aspect of the transtheoretical model is that movement through the stages during smoking cessation is considered to be a cyclical process, with relapse being the event which terminates the action or maintenance stage. It is suggested, that when relapse occurs, there is a process of recycling through the initial stages of precontemplation and contemplation. DiClemente et al (1991) and Velicer et al (1992) assert that precontemplation is the most stable stage within the stages of change cycle, with some precontemplators never moving beyond this point. In fact it would appear that there is nothing in the stages of change model to suggest that precontemplators will automatically or dramatically progress to the next stage of change. The authors declare that smokers in this stage of the cycle do not want to think about the problem and are often defensive in response to social pressures to change.

Contemplation on the other hand is the stage in which individuals are aware that a problem exists and are seriously intending to change their behaviour within the next six months. While there is an acknowledgement of the need to change the behaviour however, the commitment to take action has not taken place and individuals may remain stuck in this stage for long periods (Prochaska et al 1992). In contrast, the preparation stage, is the stage in which individuals intend to take action in the near future, usually within the next month thus they have developed a plan of action, or have made some small behavioural change such as reducing the number of cigarettes they smoke. It would appear from the above studies that this is a transitional rather than a stable stage with individuals more likely to progress over the next thirty days into the action stage.

The action stage has been identified as the busiest of the five stages of change in that individuals are actively engaged in eliminating their problem by utilising more processes of change than during any other stage. Studies of smoking cessation (Grimley et al 1994; Fava et al 1995; Velicer et al 1995) have demonstrated that this is the least stable of the stages and carries the highest risk for relapse. Finally, the maintenance stage has been reported as that period ranging from six months after smoking cessation until the problem behaviour is finally extinguished. During this stage individuals are not only engaged in refraining from smoking but are utilising cognitive and behavioural skills necessary to prevent relapse.

DiClemente et al (1991) tested the above transtheoretical model of change with respect to smoking cessation. Comparisons were made between smokers in the precontemplation stage (n = 166), the contemplation stage (n = 794) and the preparation stage for action (n=506). All subjects were randomly assigned to one of four minimal intervention programmes: (i) American Cancer Society/American Lung Association materials and manuals; (ii) transtheoretical manuals; (iii) transtheoretical manuals and individualised written feedback based on pre-test, post-test and 6 month questionnaires and (iv) transtheoretical manuals and individualised written feedback plus a series of four personalised counsellor calls at pre-test, post-test, 3 months and 6 months. The findings support the stage classifications and identified subgroups of smokers who were clearly at different points in the process of changing their smoking behaviour. At one month, 3 times as many contemplators and 7 times as many preparation stage smokers made a 24

hour quit attempt when compared with the precontemplators. Point prevalence smoking cessation at one month doubled from precontemplation to contemplation and doubled again for preparation stage smokers, continuing at 6 months. DiClemente et al's study (1991), demonstrates that not all contemplators were at the readiness for action stage and that chronic contemplators had particular difficulty in making the attempt to quit. Furthermore while movement into the action stage of smoking cessation is not impossible for individuals in each stage of change, only a few precontemplators and a greater number of contemplators were actually able to take action and stop smoking over the six month post-test period. The 'preparation for action' subjects on the other hand were closest to action and entered that stage with greater frequency and success.

Clearly the transtheoretical model of change is a useful framework on which to base smoking cessation interventions. For example, it is suggested that if studies measured the motivation of subjects to stop smoking prior to recruitment and hence recruited smokers in the preparation for action stage only, there would be a greater smoking cessation effect size, than that of studies which recruited subjects from all the different stages, or predominantly from the precontemplation and contemplation stages. It might be inferred, that the comparatively low range of smoking cessation outcomes as reported in previous studies, is the result of recruiting only a minority of smokers who are in the preparation action stage and who are seriously intending to give up.

In investigating the relatively low success rates of general practitioners' smoking cessation interventions, Richmond (1994) supports the transtheoretical theory of change as a useful model for assessing a person's motivation to stop smoking. She groups smokers into three groups, the "not ready" group, the "unsure" group and the "ready" group and asserts that as sixty per cent of smokers in the general population are not ready to stop smoking (Prochaska 1990), the intervention should be brief. The smokers in the "not ready" group should be encouraged to think about their habit and advised that the doctor is available to help at a later date when they ready to stop. In discussing the "unsure" group which comprise thirty per cent of smokers (Prochaska 1990), Richmond perceives the role of the GP as that of assisting the smoker to decide whether or not they wish to continue smoking. In so doing, she suggests that a discussion of any particular concern about smoking and about quitting may promote movement to the next stage of

readiness to take action. It is with the small group of smokers who are actually "ready" to quit (10%), that she proposes active intervention, which in addition should incorporate specific skills and cognitive and behavioural strategies to prevent relapse. Moreover, Prochaska and DiClemente (1982; 1983;1984;1986), move beyond the stages of change and recommend that the stages of change and the processes of change are integrated and are thus interacting variables in the modification of health behaviours.

### Processes of Change

In reporting the findings of cross-sectional research in relation to smoking cessation, Prochaska and DiClemente (1983) report significant differences in how frequently smokers use the processes of change. The ten processes receiving the most theoretical and empirical support are identified as consciousness raising, self-liberation, social liberation, self-reevaluation, environmental reevaluation, counter conditioning, stimulus control, reinforcement management, dramatic relief and helping relationships. Thus, in integrating the different processes of change with the different stages of change, Prochaska and DiClemente report that "consciousness raising", was emphasised in the contemplation stage with "self-reevaluation" appearing to bridge contemplation and action. Additionally they report that "self-liberation", "counter conditioning", "stimulus control", "reinforcement management", and "helping relationships" were all emphasised during the action stage. Furthermore, "counter conditioning" and "stimulus control" continued to be emphasised as part of the long term maintenance stage. The cross-sectional research studies also identified that precontemplators used the processes of change less than the other groups and in fact they appeared to defend against change. The relapsers on the other hand responded partly as if they were again contemplating quitting, and partly like people in action, attempting to prevent total relapse.

Prochaska et al (1991) further investigated the patterns of change occurring in a study of self-change approaches to smoking cessation. The study which was carried out over two years combined cross-sectional and longitudinal analysis of 14 variables. The sample comprised 544 subjects who were assessed at six month intervals for two years on: (i) ten change processes; (ii) self-efficacy; (iii) temptations to smoke and (iv) their decisions weighing the pros and cons of smoking. Subjects were also assessed at 6 month



intervals on which of the following four stages of change they were in, namely precontemplation, contemplation, action and maintenance. The findings indicate that the change processes followed a general pattern of increasing from precontemplation to contemplation, peaked at a particular stage of change and then declined either to precontemplation levels or to somewhat higher levels if used as relapse prevention strategies.

In attempting to move beyond standardised programmes for smoking cessation Prochaska et al (1991) suggest that in principle, the point at which the different processes peak, can be useful in developing interventions. The study indicates that the first process to reach a peak was "social liberation". This was at its highest level in precontemplation and proceeded to decline gradually across the stages. The next process to peak was "dramatic relief". It peaked very early in contemplation and represents an emotional trigger that may be necessary for subsequent change. "Helping relationship" also peaked early in contemplation suggesting that finding a caring relationship may provide the social support needed for the difficult life changes that are anticipated when trying to stop smoking. "Consciousness raising" peaked midway through contemplation, thus the processing of information about smoking and quitting should be viewed as the central process for the contemplation stage. "Environmental reevaluation" peaked at the end of contemplation or the beginning of action. It would appear that this process, involving a recognition of the effects of smoking on a person's immediate environment, occurs about the same time as the decision to quit. "Reinforcement management" was the first process to peak during the action stage thus it might be inferred that contemplation of the perceived or expected rewards for quitting from both self and others, may represent a final motivational push to take action. Two processes that peaked in the middle of action were "self-reevaluation" and "stimulus control". The researchers suggest that these processes may be viewed as the central processes for the action stage thus "stimulus control" involves removing all the cues to smoke from the environment and "self-reevaluation" involves changing the view of self from 'smoker' to 'non-smoker'. The final two processes, "counter conditioning" and "self-liberation", peaked at the beginning of the maintenance stage. The researchers conclude that "counter conditioning" involves the substitution of alternative behaviours for smoking, either cognitively or behaviourally, while "self-liberation" represents the

belief in one's ability to control smoking and the commitment and re-commitment to act on that belief.

It is clear from the evidence presented that stopping smoking is a complex process. The transtheoretical model of change would appear to illuminate to an extent when and how people modify problem behaviours. For example the "stage of change" dimension appears to indicate when people make particular changes in modifying problem behaviours, while the "processes of change" seem to address how people make particular changes when progressing from one stage to the next. It is also suggested from the studies above that the point at which the person is at, in the cycle of change, determines what intervention is necessary to move the person into the next stage. Grimley et al (1994) assert that while the transtheoretical model provides a useful framework for future smoking cessation interventions, it has not paid adequate attention to why some people change their smoking behaviour while others do not. They consider the decisional balance as being the variable most closely related to this issue.

### **Decisional Balance Theory**

From the results of a series of investigations, Janis and Mann (1977) postulate eight categories for decision making. They are instrumental benefits to self, instrumental benefits to others, approval by self, approval by others, instrumental cost to self, costs to others, disapproval by self, and disapproval by others. Velicer et al (1985) constructed a 24 item inventory to measure decision making as it might apply to smoking and revealed two major categories as opposed to eight. These were labelled the Pros of Smoking and the Cons of Smoking. In an attempt to explain why some individuals change their behaviour while others do not, Prochaska (1994) tested this decision-making model and found that individuals discriminated between the pros and cons of a decision, and could be high on one and low on the other, high on both, or low on both.

Velicer et al (1995) also investigated the smoking behaviour of individuals and conclude that the decision to change one's smoking behaviour is partially based on the relative weight given to the pros and cons of smoking. The sample comprised 644 volunteer active smokers, drawn from newspaper, radio and other media advertisements for a

research project on minimal smoking cessation interventions. The subjects were recruited to the following groups representing the four stages of the transtheoretical model of change: Precontemplation (n=61), Contemplation (n=322), Preparation (n=190) and Action (n=71). There were no subjects in the Maintenance stage. The researchers employed the decisional balance questionnaire to elicit data on the pros and cons of smoking. The questionnaire which comprised two 10-item scales was devised to measure the decisional balance between the positive (pros) and negative (cons) aspects of smoking. Each aspect was rated on a 5 point scale assessing the importance to the individual. The findings are similar to previous studies (Prochaska et al 1991; Fava 1995; Velicer et al 1995) in that the decisional balance measures varied in each stage of change. For example, the precontemplators exhibited a pattern comprised of high pros and low cons of smoking. Moreover, the pattern across stages revealed that the pros for smoking remained quite high throughout the first three stages of change, while during the latter stages of preparation and action, they began to decline in importance. The cons on the other hand, increased in importance during the contemplation stage to the point at which they equalled the pros. From the evidence provided, it is concluded that this may be the point at which decisional considerations are in balance and having the cons of smoking outweigh the pros, may be one important preparation during the contemplation stage.

Velicer et al (1995) recommend that interventions in relation to intensity, duration and type should be tailor-made to respond to the stage of change of the subject. For example, smokers early in the process of change may need less intense and more extensive types of programmes to be able to move them to successful action. Later stage subjects may benefit from intense, shorter, action-oriented types of interventions, which include strategies to sustain smoking cessation long term. They conclude that viewing the transtheoretical model and the stages and processes of change in this way, provides the basic framework for assessment, recruitment and interventions in relation to future smoking cessation programmes.

### **Summary**

In considering the limitations of smoking cessation interventions, review of the literature suggests that various factors are crucial in determining why some individuals are

successful in stopping smoking and some are not. Becker (1974) and Janz and Becker (1984) propose that individuals most responsive to change are those who accept personal susceptibility of a threat to their health and take responsibility through personal action to reduce that threat. The assumption of the Health Belief Model is that a "cue to action" will trigger the decision making process. Despite some criticism of the model by Galvin (1992), it is possible to conclude that the potential relevancy of the model to smoking cessation is demonstrated in Macleod Clark and Rowe's (1993) study, in that the fear related to the myocardial infarction may have triggered the decision to stop smoking.

Bandura (1977a) suggests that a "cue to action" alone is not sufficient to ensure that a decision to change will automatically take place. The principle is that people will not pursue an activity if they perceive they have not the ability to cope with it. When problems arise, people who are lacking in efficacy portray serious doubts about their capabilities and give up altogether, thus it has been postulated that those who have a strong sense of self-efficacy, adopt coping responses and exercise greater determination to achieve their goal. The importance of empowering and enabling individuals to perceive smoking cessation success positively is, as described above, the focus of Macleod Clark et al (1987) and Macleod Clark and Rowe's (1993) framework. Thus in interpreting the success of these studies it is possible to infer that the combination of the Health Belief Model and the empowerment of the individual through the identification of coping strategies, underpinned the success of the interventions.

The literature identified that conventional smoking cessation programmes may not be appropriate to all individuals. This is based on the theory of the transtheoretical model of change (Prochaska et al 1983-1994), which suggests there are definite stages in the change process through which people pass from precontemplation to contemplation, preparation for action, action and maintenance. The researchers further identify processes of change which they propose are integrated with the stages of change and therefore interact in the modification of health behaviours. They recommend that smoking cessation interventions should be appropriate to individuals in the various stages of the change cycle.

In going beyond the theory of when and how people change their health related behaviours, to why some change and others do not, Velicer et al (1995) tested the theory of decisional balance as reported by Janis and Mann (1977). They conclude that individuals discriminate between the pros and cons of a decision and that the decision to change one's smoking behaviour is partially based on the relative weight given to the pros and cons of smoking at a particular stage in the change process. Thus they recommend that interventions should be planned with a view to facilitating the cons of smoking to outweigh the pros.

In reviewing the literature, it is apparent that each of the above models and theories of smoking cessation, contribute to an understanding of the complexities of behavioural change. Therefore, based on the need for more positive cessation outcomes in relation to changing smoking behaviour, it is clear that interventions should be based on theoretical underpinning.

A review of the research pertaining to nurses' smoking behaviour, illuminates the fact that, in general nurses have not been targeted as a group for smoking cessation interventions. In the light of this, there is a real need to implement and evaluate a smoking cessation programme designed to help student nurses and qualified nurses to change their smoking behaviour. Moreover, the general issue of nurses smoking remains a major concern. Little is known about how they really feel about their smoking behaviour both in the context of their own health and in relation to their health promotion role and responsibilities. It is necessary to explore this aspect.

This study evaluates the effectiveness of a smoking cessation programme for student nurses and qualified nurses in a College of Nursing and a Hospital Trust, and explores nurses' perceptions of their health and role, as promoters of health in relation to their smoking behaviour. The following Chapter details the methods employed to accomplish this.

## **CHAPTER FOUR**

### **RESEARCH METHODS**

#### **Purpose and Design**

The overall purpose of this study was to explore the effectiveness of an individualised smoking cessation programme with a group of qualified nurses and a group of student nurses and to gain insights into the professional and personal implications for nurses of continuing to smoke.

More specifically the aims of the study were as follows:

To offer an individualised approach to smoking cessation for qualified nurses and student nurses and to assess its impact.

To explore the experiences of qualified nurses and student nurses who attempt to give up smoking.

To determine possible influences on the smoking behaviour of qualified nurses and student nurses who continue to smoke.

To establish nurses' perceptions of the impact of smoking on their own health and on their professional role.

A longitudinal design which was undertaken in two phases, was employed in this study. Phase one comprised an evaluation of a smoking cessation intervention programme which was offered to student nurses and qualified nurses. Phase two of the study comprised audio taped recorded semi-structured interviews at one year post intervention, with a sample of nurses who had stopped smoking and a sample of nurses who continued to smoke. The methods used to complete these two phases are described separately within this chapter. It was apparent that an eclectic approach to data collection would be required in order to ensure that all the research aims were addressed.

There is increasing support for combining both qualitative and quantitative data collection approaches in research designs (Bryman 1988; Corner 1991; Mason 1993; Carr 1994) and this study therefore involved both approaches. Quantitative methods alone are often criticised for seeking to verify facts or causes of social phenomena with little regard for subjective states of individuals (Bogdan and Taylor 1975). Mishler (1979) is particularly critical of the positivist methodology of context stripping. He believes that the environment of the phenomenon is meaningful to the causal relationship and the understanding of human behaviour. Whilst a mainly quantitative approach was felt to be appropriate for phase one of the study, a qualitative approach was adopted in phase two, in order to gain valuable insight into the perceptions and experiences of nurses who smoke and of their attempts to give up.

Benoliel (1984) and Duffy (1986) perceive the qualitative approach as being appropriate when concerned with understanding individuals and the nature of their events with themselves and with their surroundings. The relevance of qualitative methods to the current study is highlighted by Field and Morse (1995). They suggest that such methods should be used (i) when the research question relates to understanding a particular phenomenon or event about which little is known; (ii) when the research is conducted in a naturalistic setting, so that the context in which the phenomenon occurs is considered to be part of the phenomenon itself; and (iii) to allow all aspects of the problem to be explored and the intervening variables arising from the context are considered a part of the problem. The use of qualitative methods was pertinent to the current study in that as previously discussed in Chapter One, the health beliefs and perceptions of nurses who smoke in relation to their role as promoters of health, are issues which are largely unexplored to date. In addition, the qualitative approach afforded the researcher the opportunity of understanding nurses' smoking behaviour in the naturalistic environment where much of their smoking takes place, namely their nursing environment and allowed all aspects of the problem and the intervening variables to be explored in depth.

The methods employed in this study are addressed in two parts. First, those employed in phase one, which comprised the smoking cessation programme, are described in Part A. Part B of the chapter addresses the methods employed in Phase two during which the data were collected through in-depth interviews.

## **RESEARCH METHODS: PART A**

### **PHASE ONE OF THE STUDY: THE SMOKING CESSATION PROGRAMME**

#### **Collecting and Analysing Pre and Post Intervention Data**

Phase one of the research focused on determining the changes in smoking behaviour of the cohorts of student nurses and qualified nurses who participated in the study. A mainly quantitative approach was utilised to evaluate the impact of the smoking cessation programme. Participants were divided into two groups:

- (i) Those who indicated a wish to give up and wanted to take part in the intervention
- (ii) Those who indicated a wish to give up but did not want to take part in the intervention

The rationale which guided phase one (the intervention study), was based on the knowledge that relatively few smoking cessation intervention studies have been carried out with health professionals in general and with nurses in particular, as previously discussed in Chapter Two. The conceptual framework for the intervention was based on a model which recognises the centrality of self empowerment as the most effective means of promoting health at the level of the individual. The intervention was informed by empowerment models of health promotion and behavioural change (Bandura 1977; French 1990; Tones 1991; 1993) and was based on Macleod Clark et al's (1987) individualised model for smoking cessation which emphasises exploration of motivation and health beliefs and culminates in an individualised smoking cessation plan.

The aims of phase one were:

To assess the impact of an individualised approach to smoking cessation on the smoking behaviour of qualified nurses and student nurses.



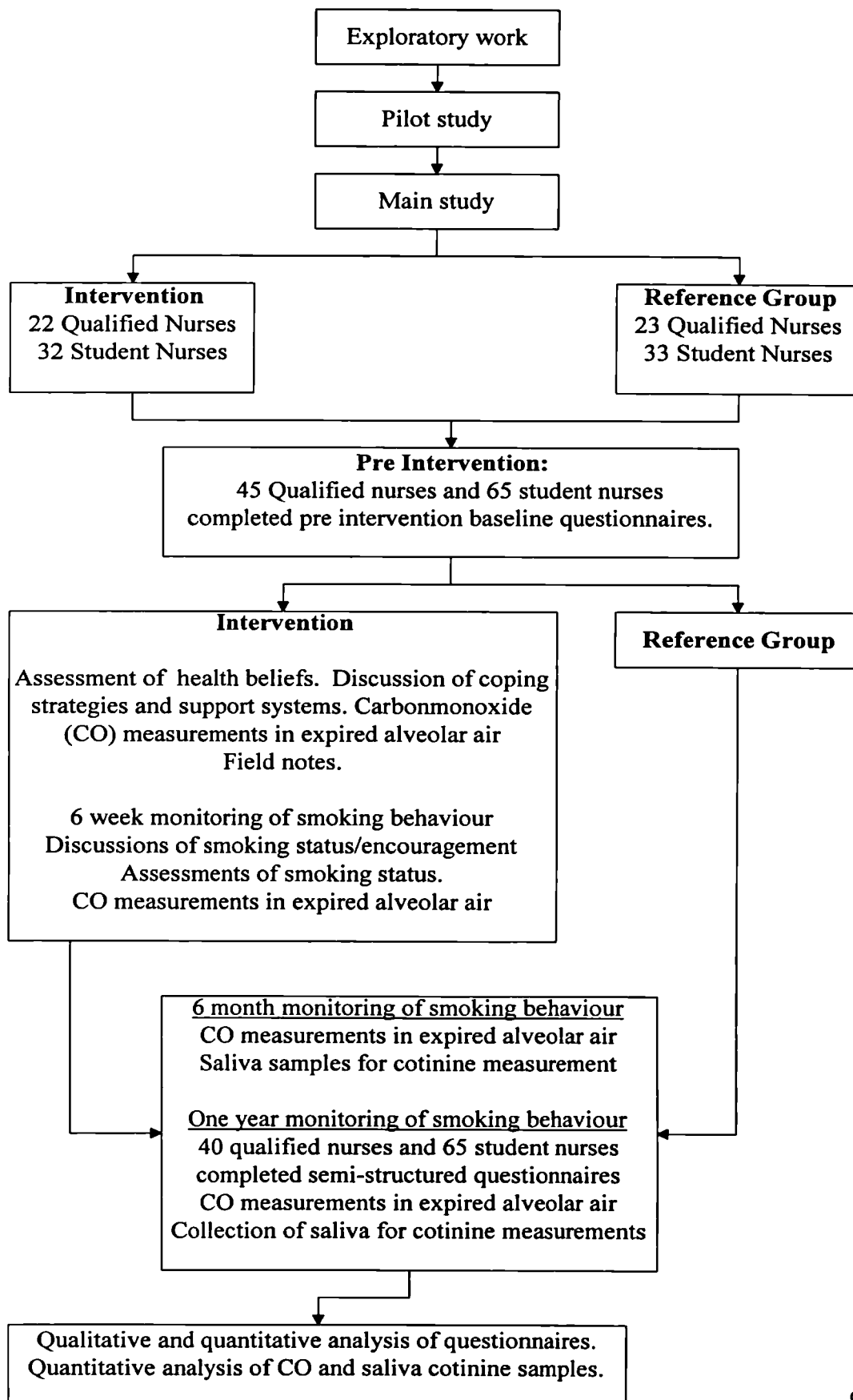
To assess the motivation and determination of qualified nurses and student nurses to stop smoking.

To explore nurses' perceptions of the impact of smoking on their health and professional role.

(The design of phase one of the study is illustrated diagrammatically in Figure 1.)

**FIGURE 1: DESIGN OF PHASE ONE OF THE STUDY**

**Phase One - The Smoking Cessation Intervention**



Phase one of the study is described under three headings: First the exploratory work and feasibility study are addressed. This is followed by a description of the steps taken in the pilot study. The final section in part one of this chapter addresses the methods employed in the main study.

### **Exploratory Work and Feasibility Study:**

#### Access to Study Site

The focus for data collection was one large College of Nursing and one large Hospital Trust which had been identified for their potential to provide sufficient data to determine student and qualified nurses' motivation to give up smoking. Access was gained to the College of Nursing following written request to the Director of Nurse Education and similarly to the Hospital Trust following written request to the Director of Patient Care. The Trust offered a range of clinical specialties and employed a substantial number of qualified nurses.

Before commencing the main study, some exploratory work was undertaken in order to assess the feasibility of the study. It was not known how many qualified nurses in the proposed Hospital site were current smokers, nor how many students in the proposed College of Nursing site were smoking. Therefore letters were distributed by the researcher to all the qualified nurses in the Hospital Trust (n=555) and to all the student nurses enrolled on the three year Diploma in Nursing programme in the adjoining College of Nursing, (n=263) informing them of the proposed future study. Attached to the letter was a short questionnaire asking qualified nurses and student nurses to indicate whether or not they were current smokers (see Appendix Nine). The questionnaires were collected from the students at the end of class and from the qualified nurses at the end of the span of duty. Twenty one per cent (n=115) of the qualified nurses reported themselves to be smoking and 46% (n=121) of the student nurses claimed to be current smokers.

To determine the interest in a supportive smoking cessation study, a second letter with a further brief exploratory questionnaire attached, was distributed to all qualified nurses (n=115) and student nurses (n=121) who currently smoked in the two selected

environments. They were invited to take part in the study and to indicate their preferred level of participation (see Appendix 10).

While one of the major disadvantages of questionnaires is reported to be a lower response rate than that of interviews, this was not the case in the current study. All the student nurses (100%) returned the second brief exploratory questionnaire in which they indicated (i) whether or not they wanted to participate in the study and (ii) their preference to enrol in the intervention or attempt to stop on their own. Sixty five student nurses (57%) of those currently smoking indicated their desire to take part in the study. Similarly, 85% of qualified nurses who smoked responded to the second exploratory questionnaire and 45 of these (31%) expressed a desire to participate in the study. The exploratory phase confirmed the feasibility of introducing a smoking cessation intervention with qualified nurses and student nurses on the two sites. It was considered that the researcher's input in distributing and collecting the exploratory questionnaires enhanced the response rate and that previous awareness of the proposed study, provoked interest which was sustained. The decision to personally distribute the exploratory questionnaires had a second potential advantage in that the researcher was available to clarify any misinterpretations in relation to the proposed study and detail the support programme.

The exploratory phase demonstrated that a total of 110 qualified and student nurses (47% of the 236 nurses who were smoking) expressed a desire to give up smoking and agreed to participate in the study. Twenty two qualified nurses requested support and twenty three desired to stop on their own but agreed to take part in the study. Similarly, thirty two student nurses requested support to stop smoking, while thirty three agreed to take part in the study but preferred no support. Thus it was considered that sufficient data would be obtained to appropriately meet the aims of the study.

During the exploratory stage it was also important to assess the environment where the main study would take place. The researcher spent a number of days in the College of Nursing and in the Hospital, discussing the feasibility and practicalities of the study with both the Director of Nurse Education and senior nurse tutors, and also the Director of Nursing Services and senior nurse managers. This time proved to be useful in that agreement was reached as to the times most suitable for distribution and collection of

questionnaires, and rooms were identified where the individualised intervention would be discussed and objective measurements would take place.

### Recruitment of Sample

Specifically the criteria for participating in the study were as listed below:

- (i) Qualified nurse or student nurse
- (ii) Smoked at least one cigarette daily
- (iii) Expressed a desire to give up smoking
- (iv) Agreed to take part in an individualised smoking cessation intervention or alternatively did not wish to participate in the intervention but agreed to participate in the study

### Data Collection Methods and Tools

A multiple approach to data collection methods was adopted in order to evaluate the effectiveness of an individualised smoking cessation programme with a group of qualified nurses and a group of student nurses. This included a self administered pre-test questionnaire consisting of closed and open ended questions, a self administered post-test open ended questionnaire, carbon monoxide measurements in expired alveolar air and saliva samples for cotinine analysis. Each of these approaches to data collection along with the intervention used, is discussed in turn in the following sections.

#### (a) Pre-Test Self Administered Questionnaires

Data were collected prior to introduction of the intervention in order that, smoking history and motivation to stop smoking could be determined. In addition it was considered that this information would enable comparisons to be made in relation to smoking cessation outcomes following the intervention. A questionnaire was formulated, comprising closed

and open-ended questions pertaining to smoking history, smoking behaviour and motivation to give up (see Appendix 11 and 12). The questionnaire also facilitated the collection of data with respect to personal and professional details, so that a profile of the nurses and the groups could be made.

(b) The Intervention

The smoking cessation intervention was an individualised approach to helping nurses to stop smoking. The benefits of using this approach have already been described in Chapter Two (Macleod Clark et al 1987; Macleod Clark and Rowe 1993). The rationale for individualised interventions is that each person's experience of smoking is unique to that person, and for this reason it is essential that the person explores the reasons behind their smoking behaviour and identifies coping strategies which will assist him/her when attempting to stop smoking. The role of the intervention is therefore a supportive one. Additionally an important aspect of the intervention is in exploring available support systems such as a buddy link, telephone link or support group which may offer support and encouragement to the person if desired. Further follow up at 6 weeks, is vital so that experiences of stopping smoking can be discussed, and extra help and support offered if required. Evaluative assessment of smoking behaviour is considered essential at periods of six months and one year in order to determine the effectiveness of the intervention. Pallonen et al (1992) and Velicer et al (1992) highlight the need to measure smoking cessation rates at defined interim stages of the cessation process in order to determine continuous abstinence. In the main however, studies have not consistently employed this method of evaluation and have tended to rely on point prevalence abstinence rates at either 6 months or one year. Emont et al (1991) measured smoking cessation outcomes at 6 months, while Jamrozik et al (1984) base their cessation rates on one year measurements. Richmond (1994) carried out abstinence measurements at 6 months and 3 years. In order to determine continuous cessation outcomes, Gritz et al (1988) evaluated smoking cessation at 1 month, 6 months and one year. This is the protocol followed in the study described here.

The operational definition of smoking cessation was identified as continuous smoking cessation for one year post intervention. Thus in order to determine a more accurate

account of smoking status, the design of the study incorporated six month evaluations of smoking status. The effectiveness of the intervention was based on the number of nurses who had stopped smoking for one year following objective verification of smoking cessation at both 6 month and one year assessments.

The aim of the intervention was to facilitate nurses to explore beliefs, motivation and experiences of smoking and having identified coping strategies and support systems, plan an individualised smoking cessation programme. Individualised assessment and discussion were therefore considered to be most appropriate as they would enable the researcher to focus on issues of particular importance to the research question and to probe and clarify comments made by the respondent. A decision was made not to audio-record the assessments during this stage of the study. A record of the intervention process was personal to each nurse and data was not required for conversation analysis or for comparative purposes with other nurses in the intervention group, but merely as a data base.

#### (c) Carbon Monoxide Expired Alveolar Air Measurements

Bibeau (1988) in discussing the measurement and verification of smoking behaviour, emphasises the importance of physiological measures in evaluating smoking cessation programmes. Carbon monoxide levels are an index of the amount of tobacco inhaled and provide a convenient and reliable way of estimating smoking behaviour. It was considered essential to collect carbon monoxide measurements at the commencement of the intervention in order to provide baseline data against which the reliability of self-reported data could be compared, and also to serve as a baseline for future measurements during the intervention. Based on previous research (Benowitz 1983; Cummings et al 1988; Velicer et al 1992) the optimal cut off point for biochemical validation of smoking status was considered as 10 ppm. Thus the criteria for assessing smoking behaviour was determined as non-smoker 10ppm or less and smoker higher than 10 ppm.

A Bedfont carbon monoxide monitor which was calibrated at 2 on the visual monitor was employed to measure the amount of carbon monoxide in expired alveolar air. Each nurse was instructed to breathe in deeply and to seal the mouthpiece of the monitor with his/her

lips. She/he then was instructed to slowly expire alveolar air. The highest reading to appear on the monitor, was recorded as the individual's level of carbon monoxide in expired alveolar air. This data were compared with self-reports of smoking behaviour, and was a useful way of indicating the extent to which nurses had changed their smoking behaviour. Measurements of carbon monoxide in expired alveolar air were collected from all subjects in the intervention group at commencement of the intervention programme, and at 6 weeks, 6 months and one year post intervention and from subjects in the reference group who claimed they had stopped smoking at 6 months and one year post intervention. Due to the intent and constant involvement of the researcher in data collection, it was recognised that there was the potential for a 'social desirability effect'. Carbon monoxide in the body is eliminated within twenty four to forty eight hours and it was possible for a respondent to produce readings equivalent to a non smoker if he/she abstained from smoking for this period of time (Bibeau 1988). A sample of eight nurses agreed to take part in the pilot study to test the sensitivity and reliability of the measurement tool. Two reported to be light smokers, two moderate smokers, two heavy smokers and two non-smokers.

In addition, a decision was made to collect samples of saliva for cotinine measurement in order to enhance reliability of the evaluation process and produce a more accurate account of smoking cessation.

#### (d) Saliva Cotinine Concentration Data

It is commonly agreed that due to its long biological half-life of nineteen to twenty four hours, cotinine levels are the best single measure of daily exposure to tobacco smoke (Haley et al 1983; Etzel 1990; Pichini et al 1992). It is the major metabolite of nicotine, and can be measured in plasma, urine or saliva. In his review of evaluation of workplace smoking cessation programmes, Bibeau (1988) discussed the lack of physiological measures and pointed out that those studies which did use such measures, reported lower cessation rates. The preferred method of data collection for this study, was through the collection and analysis of saliva samples. Five ml samples of saliva were collected at six months and one year post intervention from all subjects in the intervention and reference groups who self reported stopping smoking.



The High-Performance Liquid Chromatographic (HPLC) method was applied to analysis of the cotinine in saliva, confirming smoking cessation outcomes and giving an indication of the effectiveness of the smoking cessation intervention. The procedure was carried out by Dr I. Davies (Lecturer) School of Pharmacy, The Queen's University of Belfast, Northern Ireland.

(e) Post-Test Self Administered Questionnaires

The aims of phase one of the study indicated that data should be collected at one year post intervention, to assess the impact of the intervention and to elicit data on the experiences of qualified nurses' and student nurses' attempts to give up. In addition it was considered that this information would enable comparisons to be made in relation to sustained motivation and determination levels of those who were successful in stopping and those who continued to smoke. It was also considered essential to collect data pertaining to the perceived effects of smoking on their health and role as promoter of health, to establish any potential changes over time. Questionnaires were formulated comprising open-ended questions which related to changes in smoking behaviour, perceived potential influences or barriers to success, future plans for stopping, perceived effects of smoking on health and perceptions of role as promoter of health (see Appendix 13 and 14). In addition, a number of multiple choice questions including Likert scales from which the respondent was asked to make a decision, facilitated specificity in relation to concluding the level of sustained degree of motivation and determination to stop smoking over one year. While it was recognised that questionnaires could not provide the same depth of information as an interview, it was considered that the level of detail produced, would be sufficient for a database and in addition would highlight areas which may require further exploration in the phase two interviews.

## **Pilot Work**

### Access to Pilot Site

A second Hospital Trust was identified in which to conduct the pilot study. It was situated approximately twenty miles from the hospital to be accessed in the main study and provided a range of similar clinical specialties. Access was gained through written permission from the Director of Patient Care. The sample population comprised 6 qualified nurses who were working in a variety of clinical settings and in addition 6 student nurses who were enrolled on the Diploma in Nursing programme but were not included in the main study.

### Piloting the Instruments:

#### The Pre-Test Intervention Questionnaire

It was essential to pilot the questionnaires prior to the main study with a sample of qualified nurses and student nurses in order to ensure clarity and understanding, and to make further refinement if necessary. Two separate pre-test baseline questionnaires were formulated. These included similar type questions on smoking behaviour, health beliefs and biographical detail, but with a number of specific questions pertinent only to either the student or the qualified nurse. This approach facilitated a less cumbersome questionnaire, as each one contained only the questions relevant to the particular professional status of the nurse (see Appendix 11 and 12). Two pre-test draft questionnaires were constructed and given to nurse researchers and experts in the area of smoking cessation for comments and feedback on face and content validity. Feedback indicated that face and content validity was satisfactory and little change was necessary.

The pilot study involved collecting data from a total of 12 individuals who were current smokers using the pre-test questionnaires with an explanatory letter. These included 6 student nurses, two each from year one, two and three of the Diploma in Nursing programme and 6 qualified nurses, one each in a medical, surgical, care of the elderly,

critical care, mental health and maternity ward. The pilot sample achieved a response rate of 100%.

It is often claimed that questionnaires suffer a number of disadvantages when compared with interviews. These are summarised by Polit and Hungler (1993) as (i) a lower response (ii) problems of misinterpretation and (iii) information of less depth. As previously identified in the exploratory stage of the study, the potential difficulties of a low response rate and misinterpretation were offset to a certain extent by the researcher's presence in the wards and in the College of Nursing and by the decision to personally distribute and collect the questionnaires. The benefit of this approach was further seen in the pilot study and in view of this, it was considered that this method of data collection would be employed in the main study.

Analysis of responses to the questionnaires indicated that there was little ambiguity in relation to the questions posed and that data was elicited relevant to the aims of the study. After minor changes the questionnaires were therefore considered suitable for the main study.

#### The One Year Post-Test Intervention Questionnaire

Two versions of the post-test questionnaires were developed, one for all nurses who continued to smoke and one for all nurses who claimed they had stopped smoking. Questions in each questionnaire were relevant to both students and qualified nurses in the particular smoking classification, namely "stopper" or "smoker". Open-ended questions were formulated in a standardised manner and following a set sequence (see Appendix 13 and 14). The qualitative approach allowed the respondent the freedom to explore issues relevant to stopping smoking, while standardisation ensured that areas relevant to the study's aims were covered by each nurse. Subsequently two post-test draft questionnaires were distributed to the aforementioned panel of colleagues and experts, for comments and feedback on face and content validity.

Several authors have pointed to the inherent weakness of relying on self-reporting as a true estimate of smoking behaviour (Lichtenstein 1982; Prue et al 1985). On this

premise, it was acknowledged that the criterion and construct validity of some of the specific questions in the pre and post test questionnaires pertaining to smoking status, would be considered appropriate to the aims of the study when the questionnaire scores corresponded with other objective criteria such as carbon monoxide and cotinine measurements. These considerations were taken into consideration prior to the design and conduct of the pilot study and were included in the main phase of the design.

During the pilot stage a small sample of nurses were given the one year post intervention questionnaires in order that the clarity of the questions could be assessed and to determine the extent to which the obtained data, reflected the aims of the research study. The sample comprised six students, two each in year one, two and three of the Diploma in Nursing programme, and six qualified nurses, one each in a medical, surgical, maternity, critical care, mental health and outpatient environment. Three of the students and three of the qualified nurses were current smokers and were given the questionnaire relevant to their smoking status. The remaining three students and three qualified nurses were exsmokers and were given the questionnaire which related to those who had stopped smoking. It was considered that this sample of nurses with similar smoking status as the target population, and at different stages in their nursing career would appropriately test the applicability of the questionnaires to be used in the main study.

The pilot study identified that the questionnaires were comprehensible and elicited data relevant to the research aims of the study. Minor changes were incorporated into the final version of the questionnaire.

### The Objective Measurement Tools

These are described in pages 99 to 100. The levels obtained corresponded with the self reports of smoking status and assured the researcher of the sensitivity and reliability of the instruments.

## The Intervention

The researcher had previously employed the intervention approach during a smoking cessation programme with patients (Macleod Clark et al 1993). Although familiar with its approach it was necessary to pilot the intervention with the target population. Thus one qualified nurse from the pilot hospital who had previously expressed a desire to stop smoking agreed to participate in the pilot intervention. The pilot indicated that the intervention in its approach was an appropriate method to be employed with nurses desiring to change their smoking behaviour and no change to the intervention programme was considered necessary.

Following the pilot study no other changes were considered necessary in order to proceed with the main study. This commenced in January 1993.

## **MAIN STUDY**

### **Data Collection Procedures**

Data collection commenced in the College of Nursing and the Hospital Trust simultaneously and was not considered complete until data had been collected from each nurse one year post intervention and the interviews were completed. During the exploratory phase of the research, it was identified that a total of 110 nurses showed interest in stopping smoking. This sample included 45 qualified nurses (31%) of the total population of smoking qualified nurses, and 65 student nurses (57%) of the total population of smoking student nurses. On the basis of the exploratory questionnaire, the nurses were assigned to their preferred groups as illustrated below.

Twenty two qualified nurses expressed a desire for support to stop smoking and were recruited to the intervention programme. Twenty three qualified nurses conveyed their intent to give up smoking and their willingness to participate in the study, but did not wish to be included in the intervention. They were assigned to the reference group.

Similarly based on their preferences, thirty two students were recruited to the intervention programme and thirty three to the reference group.

Data collection commenced with distribution of the pre-test questionnaires by the researcher to all qualified and student nurses in the intervention and reference groups (n=110). (See Appendix 11 and 12). A previous arrangement was made with tutors in the College of Nursing, whereby fifteen minutes were granted at the beginning of class for students to complete and return the questionnaire. A response rate of 100% was achieved. Similarly the questionnaires were distributed to qualified nurses in the Hospital Trust at the beginning of a span of duty and collected at the end of the duty span. This method of distribution and collection also achieved 100% response rate. The aim of the questionnaire was to elicit data prior to the intervention in order that smoking history and motivation to stop smoking could be determined. In addition it was acknowledged that the collection of personal and professional information would facilitate comparisons of the sample in the intervention and reference groups.

### **The Intervention**

Informal individual discussions were arranged with the student nurses and the qualified nurses who indicated their preference for a supportive smoking cessation programme. The discussions took place in a pre-determined room in the College of Nursing or a room adjacent to the ward where the qualified nurse was working. During discussions, assessments of motivation, determination, confidence and health beliefs were carried out. The structure of the intervention was based on the assessing, planning and implementation stages of the framework, as outlined below. The discussions which were supportive in nature ranged from one, to one and half hours depending on the individual needs of the nurses.

#### **(a) Assessment of Health Beliefs and Motivation to Stop Smoking**

Data were collected pertaining to each nurse's motivation to stop smoking, health beliefs, and concerns with regard to continuing to smoke or giving up. Discussions with nurses led to the identification of problem areas in relation to changing smoking behaviour, and a

heavy emphasis focused on the identification of coping strategies to overcome these difficulties. This data contributed to an individualised profile of each nurse and provided useful information when identifying coping strategies and support mechanisms in the planning stage of the interview. During the assessment phase of the intervention, carbon monoxide levels in expired alveolar air were also measured, employing a Bedfont Carbon monoxide Monitor. The advantage of this method of data collection has been described in the exploratory, and pilot stages of the design. The data obtained, proved to be a useful baseline against which to measure future carbon monoxide levels and subsequent smoking behaviour.

(b) Planning the Approach to Stopping Smoking

During the discussion, data was collected on each nurse's plan of action to stop smoking. It was vital that each nurse identified both a time for stopping smoking and considered appropriate coping strategies. In addition, it was vital that a support system such as linking with an identified non smoking friend, a telephone link with an identified person, or the availability of an outside agency, such as a smoker's clinic, was incorporated into the plan. Each nurse was asked to collate a diary of events of successes and/or problems to be discussed at the six week post intervention assessment. Nurses were also given the opportunity to contact the researcher if they so desired, to have carbon monoxide levels in expired alveolar air measured, or to discuss problems which may occur post intervention.

(c) Implementation of the Smoking Cessation Plan

Data were collected during the intervention on nurses' efforts to give up smoking, employing their individualised smoking cessation plan. Nurses were seen at six weeks post intervention, to monitor experiences of stopping smoking, and to offer support and encouragement and further intervention if required. Carbon monoxide levels in expired alveolar air were measured and compared with verbal reports of smoking status and with the carbon monoxide measurements recorded during the assessment stage of the intervention. This gave some indication of smoking behaviour since commencement of the intervention, and provided encouragement to those who had successfully achieved smoking cessation, thus supporting previous research by Rowe (1990). She found that

patients who had been diagnosed a myocardial infarction and enrolled in a supportive smoking cessation intervention were encouraged to maintain smoking cessation when they observed a decrease in their carbon monoxide levels. When employed pre and post intervention, it further acted as an educational tool in that subjects could see visual evidence of the benefits of stopping smoking. This method of monitoring smoking status therefore has the potential for both empowering subjects to achieve the aim of smoking cessation and for determining a more accurate account of smoking cessation outcome. As previously identified from the literature, the majority of studies rely on self-reports of smoking cessation. While others acknowledge the usefulness of carbon monoxide measurements for evaluative purposes, the benefits of this method as a tool for promoting maintenance of smoking cessation do not seem to have been addressed to any great extent.

## **Monitoring Smoking Behaviour**

### Objective Measurements

These are described in the exploratory phase of the study. Measurements of carbon monoxide in expired alveolar air and collection of saliva samples for cotinine concentration were carried out at 6 months and one year post intervention with all the student nurses and qualified nurses in both the intervention and reference groups who said they had stopped smoking.

### One Year Post -Test Semi-Structured Questionnaires

One year data were collected by employing two post- test, semi-structured questionnaires (see Appendix 13 and 14). One questionnaire was designed for nurses who claimed to have stopped smoking (n=17) and another was designed for nurses who continued to smoke (n=88). The questionnaires were distributed to students in the intervention and reference groups by the researcher, prior to the commencement of class in the College of Nursing, and were collected following completion of the questionnaire fifteen minutes later. Suitable times were arranged for distribution to qualified nurses in the clinical areas. These were completed by the nurses when handed to them and collected by the



researcher following completion. Each nurse (whether qualified or student nurse) was advised to choose the questionnaire most appropriate to her/his current smoking or non smoking status. As previously described in the exploratory and pilot stages of the design, the majority of questions were identical, however, some differences were evident in order to capture potential influences in relation to stopping smoking or continuing to smoke. Thus it was considered less cumbersome to have two separate questionnaires, rather than combining the questions. In employing this method of data collection, there was a high response rate with 100% of nurses in the intervention group returning completed questionnaires. One qualified nurse (2%) withdrew from the intervention programme at an earlier stage of the study.

### Problems Experienced with Data Collection

During the course of data collection for the main study, it became clear that there was some inconsistency between self reports of smoking cessation and chemically validated findings. Three students and one qualified nurse in the intervention group inaccurately reported to have stopped smoking at 6 months. It is possible that there may have been an element of 'social desirability' present, with nurses in the intervention group being reluctant to admit to continuing to smoke. Field and Morse (1995) discuss the "researcher's status position" pointing out that it can prevent certain information from being obtained, thereby influencing the validity of qualitative data. The researcher's position in the intervention programme, had the potential to distort the information elicited in relation to the actual state of their smoking behaviour. However, it must be highlighted that one student nurse and one qualified nurse in the reference group also inaccurately reported having stopped smoking at one year. As previously indicated, inaccurate self reporting of smoking cessation is not a new phenomenon and has frequently been discussed by a number of authors (Lichtenstein 1982; Prue et al 1985). The value of including objective measures in the data collection phase of the main study was clearly demonstrated in that they confirmed the smoking status of those who reported that they had stopped. Thus nurses whose carbon monoxide levels and/or saliva specimens indicated that they had not stopped smoking, were classified a 'smoker' and the data treated as such.

A second problem arose in relation to the collection of saliva samples. While all nurses who claimed to have stopped smoking agreed to provide a sample of saliva, for analysis of cotinine, 6 student and qualified nurses (as previously identified) refused to do so at the six month monitoring stage. In view of the fact that carbon monoxide levels in expired alveolar air indicated that they were still smoking, they were classified a smoker. Moreover, two nurses supplied less saliva at one year than requested and were reluctant to provide any more. Analysis indicated, that despite smaller amounts being collected, there was a sufficient amount in each sample to enable a substantial amount of cotinine to be traced. These levels correspondingly matched raised carbon monoxide levels.

## **Data Analysis**

Each form of data offered a different insight into the motivation of nurses to stop smoking and a different emphasis in the evaluation of the effectiveness of the smoking cessation programme. Therefore each data set required a different method of analysis. The analysis of the carbon monoxide and cotinine measurements yielded descriptive quantitative data. The approach to the analysis of each data set is subsequently described.

### **(a) Analysing the Pre-Test and Post-Test Questionnaire Data**

The biographical details, of nurses who completed questionnaires were coded and entered on to a file on the researcher's personal computer, before being analysed using the software package SPSS for windows. Closed-ended questions relating to motivation and health beliefs were coded and simple descriptive statistics comprising cross-tabulations and percentages were produced, thus making it possible to illustrate similarities and differences between the nurses in each particular group and also between groups. Responses to the open-ended questions on the questionnaires were subjected to a process of content analysis, facilitating the formulation of categories. The data were then subjected manually to a form of quantitative analysis, giving an indication of the frequency or prevalence among the sample, of the categories that emerged. The same method of analysis applied to the post-test questionnaires. Responses were compared in each particular group giving an indication of similarities and differences within that group. Responses were then compared between groups prior to inferences being made.

Content Analysis is a method of handling narrative, qualitative material and has been described as:

"a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (Berelson 1971, p.18)

It is a method which integrates both qualitative and quantitative analysis, thereby distinguishing it from a purely qualitative analytic approach. Basically it was considered that it would facilitate an understanding of nurses' attempts of stopping smoking to emerge, while simultaneously enable quantification of particular response categories. In view of the fact that content analysis may be used to analyse a variety of narrative materials including both written and oral communications, it was selected as an applicable approach for analysis of the open-ended responses to the questionnaires in the current study. A purely qualitative analysis was considered inappropriate for the following reasons. The semi-structured nature of the questions and the items included, restricted responses in length and depth thereby rendering a more extreme qualitative analysis inapplicable, and further, to enable comparisons and inferences to be made, a degree of quantification was essential. Conversely to apply purely quantitative analysis to the data would restrict an understanding of nurses' experiences of stopping smoking. It was therefore considered that in combining these approaches and applying content analysis to the data, the aim and objectives of the study would be more fully met.

The procedure involved in coding the content of the message from each of the sources was adapted from the steps outlined by Cole (1988). These were:

1. Develop the coding scheme:

- (a) Recording unit
- (b) Categories
- (c) Context unit
- (d) Enumeration unit

2. Develop the coding sheet.
3. Specify coding instructions and definitions for each category.
4. Organise and analyse data.
5. Interpret the results.

Initially the unit of analysis must be defined. This may vary according to the purpose of the analysis and can range from a small unit such as words within a message, or to a unit comprising the entire message or document. In discussing units of analysis, Polit and Hungler (1993) identify the 'theme' as a broader unit of analysis than a word. It can be a phrase, sentence or paragraph embodying ideas or making assumptions about a topic, and was consequently considered the unit of analysis most appropriate to this study, in attempting to understand the experiences of nurses in their efforts to give up smoking.

The subsequent step in accomplishing a content analysis was in developing categories for classifying the unit of content. Weber (1990) identifies that there is not one "right" way to carry out content analysis, but that investigators must judge for themselves the methods most appropriate for their particular situation. In the current study the categories were developed from an initial analysis of the open-ended questions. For example, in relation to meaning attributed to the reason for wanting to stop smoking, a major category to emerge was that of "health reasons". This could be further broken down into:

- (i) health of the respondent
- (ii) health of the children
- (iii) current effects on health
- (iv) potential future effects on health

The categories to emerge in this way formed the basis of a coding framework which was subsequently applied to the remainder of the responses, as part of the process of content analysis. While Yin (1989) suggests that employing a strategy for analysis reduces

potential analytic problems, it was nevertheless necessary to continually check the categories for their appropriateness.

Agar and Hobbs (1982) discusses the problems associated with proper interpretation, which is essential for selecting the correct category to classify the recording unit. The next step in content analysis is the context unit. This is referred to as that which represents the maximum amount of the message which can be searched, in order to interpret the recording unit defined (Holsti 1968 cited by Cole 1988). In the current study, the context unit within which each theme could be interpreted, was the total response to each item included in the questionnaire. For example the meaning attributed to the concept of stopping smoking could be interpreted within the context of the unit asking the nurse to describe why they wanted to change smoking behaviour.

Following identification of the context unit the enumeration unit which is the measure of quantification ascribed to the data is described. Polit and Hungler (1993) suggest that qualitative messages can be quantified in a variety of ways. The most common method is to enumerate specific occurrences in each category. A second method is to create a binary index and quantify the number of positive versus negative responses. A third mode of enumeration is to rank responses to pre-specified criteria and finally, one can rate various aspects of response. The system employed in this study was (i) to enumerate specific occurrences in each category and (ii) to quantify (yes/no) responses. In applying the first method, themes which emerged were recorded according to the category to which they related, giving an indication of frequency of response. The second method facilitated quantification of the (yes/no) responses in the questionnaire, related to specific areas of smoking behaviour. Combining both methods of enumeration, facilitated a system to be developed consistent with the aims of the research.

A coding sheet was formulated identifying the categories for separate questions in the questionnaire. A code unique to each nurse was placed beside each occurring category under the category heading, thereby facilitating the source of each response to be easily identified. Coding instructions and definitions for categories were developed to enable a systematic process of coding and to enhance objectivity. The data were analysed within

the framework and resulted in the emergence of major categories which reflected nurses perceptions of their smoking behaviour and their efforts to give up.

In discussing systems for analysis of naturally occurring expressions of causal belief, Stratton et al (1986) points out that the usefulness of a method of coding depends on (i) an acceptable level of reliability, (ii) the ability to generate sufficient data and (iii) demonstrable validity. Reliability refers to consistencies produced when the same text is coded a number of times. Due to the nature of the questionnaire data in this study, a standard coding for the questionnaire was unavailable. Therefore the reliability of the procedure against a recognised standard coding could not be assessed. In an attempt to improve the reliability of the coding procedure, the process of inter-coder reliability was used, with a sample of 24 questionnaires analysed by a second researcher. A large measure of agreement was achieved between the two researchers' classification of data into categories, suggesting a degree of reliability in relation to the analytic process.

While validity of the content analysis is difficult to assess, attempts were made, by sharing the categories which emerged from the data, together with a sample of the questionnaires from which they were derived, with nurse researchers in the field of smoking cessation. Feedback indicated that the coding system utilised in the study possessed face and content validity. This approach also provided a degree of semantic validity which exists when persons familiar with the language, examine lists of words placed in the same category and agree that they have the same meanings.

A number of categories emerged which informed the phase two interview schedule. These were as follows:

- Reasons for stopping/continuing to smoke

- Perceptions of smoking and health

- Perceptions of smoking and professional role as promoter of health

### Analysis of Objective Measurements

The procedure for measuring carbon monoxide levels is described in detail in the exploratory stage of phase one. Details of analysis of the saliva samples are available from The Queen's University of Belfast, as previously discussed. This data were compared with self-reports of smoking behaviour, and was a useful way of indicating the extent to which nurses had changed their smoking behaviour and stopped smoking. They were a useful database alongside other data offering insight into the study aims and objectives.

### Ethical Issues

Written consent to carry out the study in the College of Nursing was granted by the Director of Nurse Education and by the National Board for Nurses, Midwives and Health Visitors for Northern Ireland. In addition, written consent to access nurses in the Hospital Trust was given by the Director of Nursing Services and verbal permission to access nurses at a mutually agreed time in the ward environment, by the Sister in charge of each ward. A written letter explaining the purpose of the study was sent to all ward sisters and to tutors in the College of Nursing requesting their assistance in the study (see Appendix 15 and 16). Letters explaining the intention of a future study were distributed to all qualified nurses, the names of whom were obtained from the duty rota in each ward and to all students in the College of Nursing. Written approval for the study was sought and granted prior to the commencement of the study from the Medical Research Ethical Committee, University of Ulster.

The agreement to participate as a human subject in research, has as its basis a relationship built on trust, between the subject and researcher. The major component of guidelines addressing ethical issues in nursing research surrounds the protection of human rights. The Royal College of Nursing's (1977) guidelines provide directives for ensuring that human rights are not violated. It was within this framework that the ethical issues surrounding this study were considered, thus those relevant to phase one of the study will be reviewed. The first ethical issue focused on the principle of informed consent. It was essential that nurses in the sample, knew the purpose of the study, and in a clear and

intelligent manner, could make a decision whether or not to participate in it. In view of this, accompanying letters were attached to the pre intervention baseline questionnaire explaining the purpose of the study and giving a summary of what the study entailed in relation to duration, participation, and procedures. Nurses were informed that they could leave the study at any time or for any reason that they felt they were unable to continue in it. A brief description of the researcher's identity, background and involvement in the study were included. It was also necessary to inform the sample of the sponsoring body for the study. This was particularly important in view of the potentially sensitive nature of the study, namely nurses' smoking behaviour and the fact that part sponsorship was given by the professional body for nurses, midwives and health visitors. In addition the sample were informed of the procedure for dissemination of research findings. The researcher also introduced herself to qualified nurses in each ward and to tutors and students in the college, prior to commencement of data collection. This procedure facilitated further discussion of the study and allayed any residual queries.

Having taken steps to provide the sample with sufficient information about the purpose, method and projected outcome of the findings, the second issue was to ensure that voluntary consent was given by those desiring to participate in the study. Written consent was obtained by (i) signing a pre-formulated consent form designed for the purpose of the study and (ii) indicating the level of preferred involvement in the study (see Appendix 17). It is acknowledged that in view of the fact that students were approached in the classroom and qualified nurses in the clinical area, there was the potential for some to feel coerced into participating in the study. This however, seems unlikely in this current study as only 47% of all nurses who smoked, agreed to take part at all. The fact too that only five nurses (5%) of all nurses in the sample, withdrew from the study would tend to lend support to the opinion that subjects felt comfortable participating and were not subject to coercion. Reliability and validity are not considered as being compromised.

A third ethical issue to be considered was that of confidentiality of data collected from the nurses. This was particularly important in view of the need to store the data for comparison at a future phase in the study. Anonymity was achieved by coding of individual nurse's names on both the questionnaires, and the data which were stored. A method of coding was also used for the carbon monoxide recordings and for the saliva



samples. Confidentiality of the data was protected by ensuring that it was used only for the purpose of the current study and that none other but the researcher and a minimum number of colleagues involved in the analytic process of the data would have access to it.

## **RESEARCH METHODS: PART B**

### **PHASE TWO OF THE STUDY: THE IN-INDEPTH INTERVIEWS**

#### **Data Collection and Data Analysis of Taped Recorded Semi-Structured Interviews**

The second phase of the research focused on describing the perceptions of a subsample of student nurses and qualified nurses in relation to their experiences of being a nurse who smoked and of their attempts to give up. A qualitative approach was utilised in order to gain deeper insights into the smoking nurse's world, and to give understanding as to why some nurses gave up smoking while others did not. In addition it was important to explore more fully, nurses' perceptions of the potential effects of smoking on their health and the impact of smoking on their professional role as promoters of health.

The aims of the study were:

To explore the experiences of qualified nurses and student nurses who were successful in stopping smoking and those who were not.

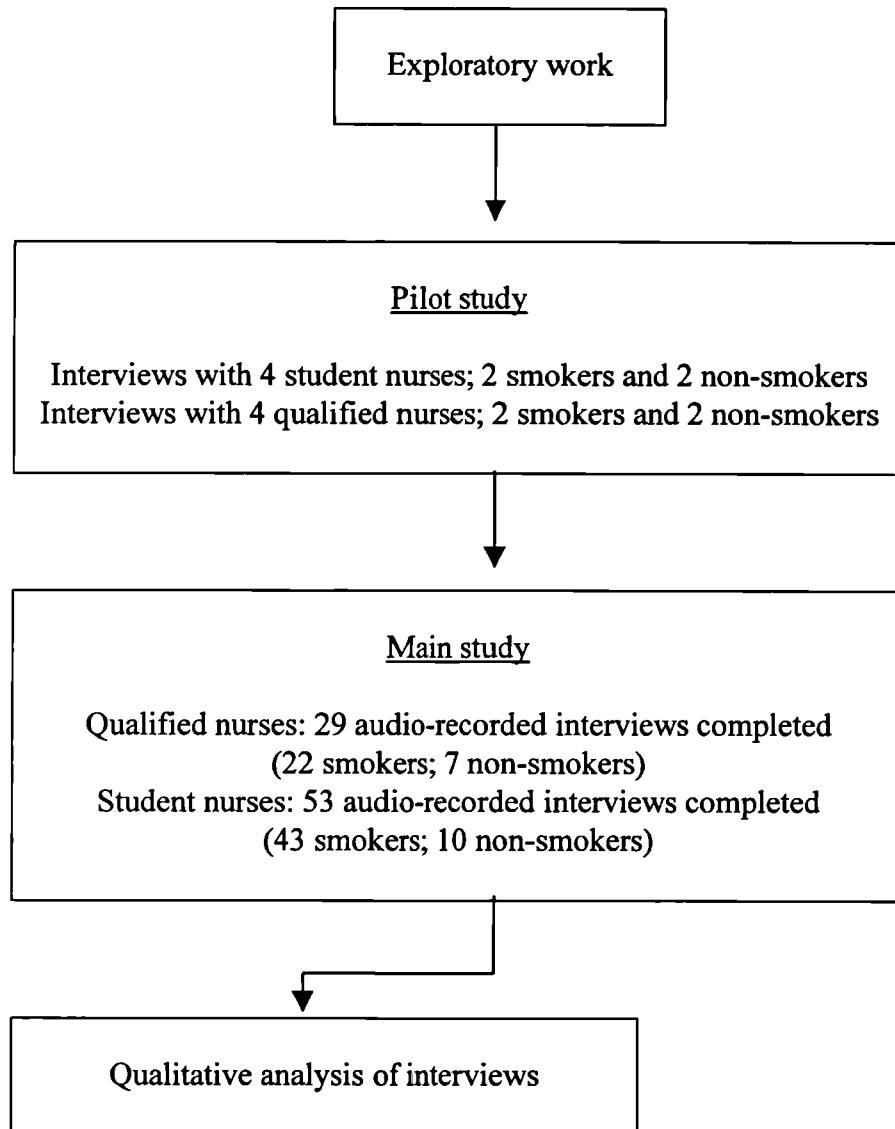
To determine potential influences on the smoking behaviour of qualified nurses and student nurses who continue to smoke.

To explore qualified nurses' and student nurses' perceptions of the potential effects of smoking on their own health.

To explore qualified nurses' and student nurses' perceptions of the potential effects of smoking on their role as a promoter of health.

An outline of the design of phase two of the study is shown in Figure Two.

**FIGURE TWO: DESIGN OF PHASE TWO - TAPED RECORDED SEMI-STRUCTURED INTERVIEWS**



### **The Relevance of a Qualitative Approach**

The focus of qualitative research is to describe the dynamics of 'why' the subject of the investigation thinks or behaves in a particular manner, rather than on 'what' his actions or thoughts are. Qualitative research is a valuable way to explore phenomena that have not been previously investigated, and therefore in the current study this approach was considered appropriate to address nurses' perceptions of their attempts to stop smoking

and their perceptions of the potential effects of smoking on their health and on their role as promoters of health. In addition, analysis of the one year questionnaire data identified areas where further insights were essential in order to generate research knowledge. These issues related to smoking nurses' perceptions of the effects of smoking on their health and the impact of their smoking on their professional role as promoters of health.

Consideration was given in the exploratory stage of this study to employing either Husserl's or Heidegger's phenomenological approach in order to elicit the "lived experiences" of smoking nurses. Husserl's approach was rejected for the following reasons. Husserl (1859 - 1938), often referred to as the father of phenomenology, introduces the study of phenomenology as that which appears through the conscious. Husserl's goal was to create a presuppositionless philosophy. Therefore in seeking the nature of the human lived experience, the researcher must "bracket out" the researcher's world, his experiences, preconceptions and all knowledge of the phenomena. This approach was not considered appropriate for this study in that it was impossible to "bracket out" all the researcher's prior knowledge of the data to date and the experiences of the nurses in the sample. In addition, since the researcher's intent in a phenomenological approach is to "bracket out" explanations about the phenomenon, the literature review should be delayed until the data collection is completed. This approach was not considered applicable to the overall aim of this present study in that it was vital through critically reviewing the nurses smoking literature to identify where the gaps in research were, prior to beginning the study. Heidegger (1962) criticises Husserl's approach in that one cannot separate the phenomena from the world. He uses the term "pre-understanding" and suggests that the interpreter inevitably brings certain background expectations and frames of meaning to bear in the act of understanding, which cannot be "bracketed". In discussing this concept, Marcel (1971) suggests that the researcher cannot place one's self outside the problem he has formulated as the posing of the question was not something that had to be searched out, but came from one's experience. In this current study phase two was designed to address questions which had arisen from analysis of the data in phase one and which required further exploration.

Whether a Husserlian or a Heideggerian stance is accepted by the researcher, the interviewer who employs a phenomenological approach to interviewing, shapes the

interview by asking a leading question, but in turn is also shaped by the interview as both the interviewee and interviewer are drawn into the experience and the story unfolds in free conversation. This "purist" approach was not considered appropriate for this study in that themes requiring further exploration had been identified in phase one of the study. To have a totally unstructured approach to data collection would have made the aims and objectives of the study difficult to achieve.

While the strengths of the qualitative research approach are unquestionable, nevertheless the same benefits can be a potential weakness. The major disadvantage is linked to the fact that the researcher during data collection has intensive contact with the individual or the group under investigation, making objectivity more difficult, and thereby causing a potential threat to the reliability and validity to the study. Whilst this possibility cannot be entirely eliminated from the current study, steps were taken to enhance reliability and validity as far as possible. The conversations were transcribed verbatim and as far as possible were given to the participants to verify the accuracy of the record of the interaction. Additionally a sample of the data was exposed to independent experts for verification of interpretation. The greatest concern in relation to the qualitative research method is generally considered to be its lack of generalisability. As the findings of this study cannot be applied to individual nurses or groups of nurses in other settings, it is accepted that this study is limited in relation to this and no claims are made as to its generalisability. However the qualitative research design was considered to be the most appropriate method to employ, in order to gain valuable insights into the perceptions and experiences of a group of qualified nurses and a group of student nurses who smoke. Hycner (1985) asserts that although the results only apply strictly to the participants interviewed, if they illuminate to some degree the "worlds" of the participants then, that in itself is valuable and subsequently through the process of investigating the experience of one unique individual, we can learn much about the phenomenology of human beings in general. It was considered that in employing the qualitative approach to data collection, the aims of the study would be appropriately met.

In accord with part one of the study, the methods utilised in phase two are addressed under three headings. First the exploratory work and the pilot work are described. This is followed by a description of the main study.

## **Exploratory Work**

### Sample and Access

All nurses who participated in phase one of the research were invited to participate in phase two of the study. Hycner (1985) in discussing qualitative sampling, suggests that part of the "control" and rigor for this type of research emerges from the type of participants chosen, and their ability to fully describe the experience being researched. Consequently letters were sent to all nurses remaining in the study at the end of phase one (n=105) explaining the purpose of phase two of the study and asking them to indicate their preference to participate in audio-recorded interviews. Eighty two nurses (78%) of the sample agreed to take part in the interviews, and it was considered that this number provided a representative sample of the total cohort of nurses in the intervention and reference groups. Thus 53 student nurses and 29 qualified nurses were interviewed. Of these 17 nurses had stopped smoking (confirmed by cotinine analysis) and 65 continued to smoke. One student in the reference group previously claimed that she had stopped smoking and refused to provide a sample for cotinine analysis. At interview however, she admitted that she was smoking and was interviewed as one who continued to smoke. Likewise another student and a qualified nurse had misreported stopping smoking. Their saliva samples detected cotinine. At interview they also admitted that they were smoking and were interviewed as smokers. A decision was made to interview all nurses who agreed to participate in phase two of the study in order to access as many experiences as possible, and to gain a deep understanding of nurses' smoking behaviour. It would also be possible to ascertain whether there were similarities in perceptions and experiences. Access to facilities for the interviews were made available through the Director of Nurse Education, the Director of Nursing Services, and ward sisters as in the previous phase of the research study.

## **Data Collection**

### **(a) Development of Semi-Structured Interview Schedule**

The aim of this phase of the study was twofold. It was necessary to elicit the perceptions of nurses in relation to their experiences of stopping smoking, in an effort to determine why some nurses were successful in stopping smoking while others continued to smoke. In addition, there was a need to explore in depth, themes which emerged from analysis of the data produced in phase one, in relation to nurses' perceptions of the effects of smoking on their health and on their professional role as promoters of health. Semi-structured interviews focusing on themes relevant to the aforementioned areas, were considered to be the most appropriate approach to data collection as it enabled the researcher to focus on issues of particular importance to the research question and to probe and clarify comments made by the respondents.

Consideration was given to one of the difficulties encountered in the qualitative interview process and subsequently discussed by May (1989), that is the problem of balancing flexibility and consistency. While this becomes more of a problem when the study involves multiple interviewers, in that there is the potential to pursue different leads and different levels of depth, consistency is also difficult to achieve even for the individual interviewer. For this reason, semi-structured interviews were considered the most suitable method of achieving this balance. Open-ended questions were formulated for use with each nurse in a standardised manner. This allowed the topic to be explored in an unconstrained manner from the interviewee's perspective, while the inclusion of pre-determined areas of interest, guaranteed that these areas would be covered by each respondent, and that the data obtained would be relevant to the study's aims and objectives.

Two draft interview schedules were shared with nurse researchers and experts in the area of smoking, for comments on face and content validity. One interview schedule comprised questions which related to stopping smoking, to be used with the nurses who were successful in changing their smoking behaviour (see Appendix 18). The other interview schedule addressed questions relating to continuing to smoke, to be utilised

with the nurses who had not been successful in stopping smoking (see Appendix 19). Feedback identified that these were satisfactory, and that sufficient comparable questions were included in both interview schedules. Other tests of validity usually applied to quantitative data such as content and construct validity were not applicable for this phase of the study.

#### **(b) Tape Recording the Interviews**

In view of the desired depth, it was considered that audio recording the interviews was an appropriate method for providing detail of response, thereby enhancing the quality of the data obtained for transcription and analysis. It was considered a more applicable approach to data collection than by relying solely on field note data during interview. The advantages of audio-recording interactions, centres around their capacity to provide accurate and reliable data which can be stored. However the introduction of a tape recorder may pose some problems in relation to influencing the validity of the data. For example, there is the potential for some interviewees to feel uneasy at the presence of a tape recorder and consequently responses may be restricted, withheld or distorted, particularly when sensitive areas are addressed. These problems were acknowledged when choosing a suitable audio tape recorder for the study and will be described in more detail during the pilot stage of the study.

#### **Pilot Work:**

##### **Tape Recorded Semi-Structured Interviews**

During the pilot stage, a small number of student nurses in the College of Nursing who had not participated in the study and qualified nurses located in the hospital identified for the pilot study in phase one, agreed to be interviewed using the interview schedule. The pilot interviews were arranged and carried out over a period of two weeks during May 1994. The purpose was to assess the clarity and comprehension of the interview schedule to nurses currently smoking and to those who were successful in stopping. The feasibility of audio recording the interviews and the procedure of verbatim transcription of data were also assessed. The pilot sample comprised four student nurses and four qualified



nurses. These included two students and two qualified nurses who had stopped smoking and two student nurses and two qualified nurses who currently smoked. The qualified nurses included two staff nurses, one nurse tutor and one ward sister. The purpose of the pilot interviews were explained to them and they were informed that they could withdraw from the pilot study at any stage or have the tape recorder switched off at any time during the interview. Confidentiality of data was assured.

The interview consisted of open ended questions which related to nurses' perceptions of their experiences of smoking and their experiences of giving up smoking and facilitated eliciting data which would provide in-depth insights into the reasons why some nurses stop smoking while others continue. In addition the semi-structured approach to the interview enabled in-depth data to be collected pertaining to nurses perceptions of the effects of smoking on their health and on their professional role as promoters of health. The pilot study was useful in that it enabled the researcher to become familiar with issues which had emerged during the first phase of the study and which required further exploration. These issues were subsequently included in the interview schedule for phase two of the main study. The study also provided the opportunity for refining the interview technique in preparation for the main study. It demonstrated that there was clarity in the questions and from the process of verbatim transcription it was identified that the data provided richness and depth of content relating to the research aims of the study. It did not however permit the researcher to explore the impact of an intervention with the sample of nurses.

The interviews were audio-recorded using a Saisho TR 60 Cassette Voice activated recorder. The small hand sized recorder incorporated an in-built microphone, thus minimising the obtrusiveness of the recording equipment. It incorporated a signal when the end of each tape was reached and a counter indicating the amount of time left on each tape. These were useful components and enabled interviews to be carried out with minimal disruption.

The facilities which were utilised during the discussion phase of the intervention in phase one of the study were also made available for phase two. These rooms were reasonably private, and interruptions and background noises were minimal, thereby enhancing the

flow of the conversation and facilitating the transcription of the tapes. However it became apparent after the first interview that if the interviewee spoke very softly at the beginning of the interview, the audio recorder was not activated, and conversations could take place which were not recorded. The researcher carefully monitored this situation making sure that the recorder was activated at the beginning of each conversation.

The eight pilot interviews were transcribed verbatim, with a focus on the relevance of the data to the aims of the study. During this stage it was identified that by focusing on themes which had emerged in phase one of the study, while letting the conversation flow as naturally as possible around these themes, rich data were obtained and minimal 'irrelevant' data was produced, as a result of the nurse digressing from the original question.

In summary, audio recorded semi-structured interviews were considered the most appropriate method of data collection for the in-depth interview phase of the study. This enabled experiences of changing smoking behaviour to be addressed, together with perceptions of health and professional role to be explored. It was further considered useful to record field notes as an adjunct to the interview data and as a valuable complementary data base.

### Revisions

The pilot study highlighted the importance of speaking out loudly enough to activate the recorder during the conversations. Little adaptation was required to the interview schedule and it was considered that the semi-structured approach would appropriately elicit data which would meet the aims of the study.

## **MAIN STUDY**

### **Data Collection**

Following the pilot study, the main study commenced in June, 1994 and was completed in December 1994. Eighty two qualified nurses and student nurses were interviewed employing an audio recorded approach to data collection. The sample comprised 29 qualified nurses and 53 student nurses. Sixteen of the qualified nurses and 26 student nurses participated in the intervention and 13 qualified nurses and 27 students participated in the reference group. The sample comprised 7 qualified nurses and 10 students who had stopped smoking and 22 qualified nurses and 43 students who continued to smoke.

### **Semi-Structured Tape-Recorded Interviews**

The semi-structured interviews took place in a room in the College of Nursing or alternatively a room in the ward where the nurse was working. Each interview lasted approximately 30 to 45 minutes and was conducted by the researcher. The researcher made attempts to eliminate potential embarrassments by using an unobtrusive audio recorder with a built in microphone as previously described in the pilot stage, and positioning it so that it was less intimidating. The nurses in the sample were advised that they could refuse to be audio recorded or have the recorder switched off at any stage of the interview. Such refusals did not in fact occur and it was considered that they felt comfortable with the researcher through participating in phase one of the study and, as a result of the trusting relationship which had developed over time, did not feel threatened.

The open ended questions addressed the major themes which emerged from the questionnaire data in phase one. These were as follows:

The reasons for stopping/continuing to smoke

The perceived effects of smoking and their health

The perceived effects of smoking and their professional role as promoter of health

It was apparent that in asking questions around these themes, the central aims surrounding the question of the study, "Why did some nurses stop smoking while others continued to smoke?" and "How do they feel about the effects of their smoking on their health and professional role?" would be addressed.

### Problems with Audio-Recorded Data Collection

The main problem with data collection surrounded a small number of nurses who often did not appear for interview as previously arranged. The reasons given for absence were either sickness, a forgotten appointment or a change in the nurse's duty rota. While there was no reluctance on behalf of the nurses when contacted on the telephone, to arranging another date and time for the interview, it was nevertheless a source of frustration for the researcher who had planned her daily routine to suit the time and location of the interview. Another problem occurred with two of the interviews. On one of these occasions, a qualified nurse brought her toddler child with her to the interview. Despite the technology of the recording equipment and the high quality of the built-in microphone, the nature of the musical toy and the periodic tantrums of the child made it difficult to transcribe some of the mother's conversation. The researcher suggested that the nurse might prefer the interview to be postponed. To which the reply was "there is no better time, it's always like this". Despite the loss of small portions of data, a very holistic picture of the nurse's "lived environment" emerged, when analysing the transcript alongside the observations recorded in the field notes. The other occasion was when a qualified nurse brought a disruptive patient with her into the interview room. The bangs of the spoon on the table disrupted the flow of the conversation and made parts of the interview difficult to transcribe. On this occasion also the researcher suggested that another time and place for the interview might be more appropriate. The nurse replied "The ward is always like this, and home is not much better." Considering the large number of interviews that were carried out, disruptive incidences to any extent were exceptionally minimal and overall sufficient quality data was produced which enabled a picture of experiences of smoking nurses to emerge.

## **Data Analysis:**

### **Analysing the Audio Recorded Data**

Although a large number of interviews were recorded, a decision was made during the exploratory stage to employ a detailed conversation analysis of the audio recorded data. This decision was reinforced during the pilot stage when the researcher listened to a number of the recordings. It was identified then, that not only were the conversations focused on themes which had previously emerged in phase one, but also that during the pilot interviews the nurses were reliving their experiences of having been a smoker, or were reliving experiences of being a current smoker. The researcher makes no claim for a "purist" Husserlian or Heideggerian phenomenological approach to data collection in this study for the reasons given earlier in this Chapter. However, in view of the fact that the aim of the current study was to understand the reasons why some nurses stopped smoking while others continued to smoke and also to understand how smoking nurses really feel in relation to their health and professional role as promoters of health, it was considered advantageous to adopt a narrative interpretative approach to analysis of the data obtained in the main study. The purpose of the interpretative approach is not primarily to obtain quantifiable responses as in quantitative or content analysis, but rather to obtain descriptions from the interviewees of their own experiences. A general assumption of narrative analysis is that telling stories is one of the significant ways individuals construct and express meaning. In discussing this fact, Cohler (1982) refers to personal narratives as:

"the most internally consistent interpretation of presently understood past, experienced present and anticipated future" (p. 207)

Mishler (1986) suggests that although we are most likely to find stories reported in studies using relatively unstructured interviews, nonetheless respondents may also tell stories in response to direct, specific questions if they are not interrupted by interviewers trying to keep them to the 'point'. In fact telling stories as responses to focused questioning is a significant way for individuals to give meaning to and express their

understandings of their experiences, whether in an open-ended or closed questioning context.

Hycner's (1985) guidelines for interpreting data attempts to address a number of issues pertinent to analysis and focusing on "What does it mean for the person?". On this premise a modified version of this framework was considered to be an appropriate approach to interpreting the data in phase two of the study and to meeting the aims of the research. The procedure adopted and involved in analysis of the data and the steps taken to ensure rigor during this phase of the study are outlined below.

(i) Transcription of Taped Interviews

To begin with, the researcher listened to all the tapes. These were transcribed by the transcribers and checked by the researcher alongside the actual recorded data. This was to ensure that the data had been transcribed verbatim and included any para-linguistic communication in order to enhance the trustworthiness of the data, and establish rigor. Where the transcriber had difficulty in interpreting any word, phrase or sentence the researcher was alerted and that part of the tape was listened to intently by both the researcher and the transcriber for understanding of the word or phrase. Following transcription, the data was read for a sense of the whole, thus minimising potential threats to the trustworthiness of the data. Hycner (1985) suggests that one level of ensuring validity of data is the level at which the researcher can evaluate whether the findings are true.

(ii) Phenomenological Reduction

Keen (1975) states

"the phenomenological reduction is a conscious, effortful, opening of ourselves to the phenomenon as a phenomenon" (Keen 1975, p.38)

Perhaps the most common criticism in qualitative research is that the subjective influence of the researcher, in both the interviewing and analysis phases potentially impairs the

reliability of the data. The researcher approached the data with an openness to whatever meanings emerged and in remaining faithful to the data the tapes were listened to in their entirety and the transcripts read and re-read, noting pauses and expressions. A conscious effort was made to enter the world of the nurse in order to understand the meaning of what s/he was saying. While the researcher made every effort to remain as objective as possible, as previously explained there are no claims to having come to this stage of the analysis completely presuppositionless, but rather with a pre-understanding which originated in the researcher's knowledge of the topic and the study.

### (iii) Delineating Units of General Meaning

The researcher began the rigorous process of going over every word, phrase, sentence and paragraph in order to elicit the nurses' meanings. This meant reading the transcripts over and over again until units of general meaning emerged. An example of this process can be seen below as a nurse reflects on her experience of stopping smoking. This is only a segment of the interview for demonstration purposes.

Question: Why did you stop smoking?

Response: *"I thought smoking is doing me no good. I was breathless running up the stairs I couldn't think of a good enough excuse to smoke. I had to stop"*

### Units of General Meaning

She thought smoking was doing her no good

She was breathless running up stairs

She couldn't think of a good excuse to smoke

She had to stop

At this stage of the process the researcher remained faithful to the data and in delineating units of general meaning used the literal words of the nurse as much as possible.

(iv) Delineating Units of Meaning Relevant to the Research Question

In establishing validity, the researcher addressed the research question to the units of general meaning. This was to ascertain whether what the nurse had said, responded to and illuminated the research question. The process was as follows.

Research Question:

Why did you stop smoking?

Units of Relevant Meaning:

Thought smoking was doing no good

Was breathless running upstairs

Couldn't think of good excuse to smoke

Had to stop

In the example above, the original four general meanings remained and became units of relevant meaning, in that they were all relevant to the research question. It is important to identify that in endeavouring to remain faithful to the data and consequently enhance reliability and validity of the findings, each unit of general meaning was evaluated against the entire context of the interview. However in view of the hundreds of units of general meanings derived from each interview, it was considered more appropriate to present as an example, a subsection of one of the transcripts, in order that the process of analysis would be clarified. Hycner (1985) stresses the importance of evaluating each unit of general meaning against the entire context of the interview, and suggests that at this stage if there is ambiguity or uncertainty as to whether a general unit of meaning is relevant to the research question, it is better to "err" on the safe side and include it. In discussing trustworthiness and validity of data, he recommends that a higher level of objectivity involves the findings to be discussed and evaluated by other researchers. Thus, the researcher involved a number of nurse researchers who were expert in the field of qualitative research and were acquainted with the steps of analysis employed in this



current study, to independently verify the units of relevant meaning. The fact that there was agreement between the individual experts and the researcher, verified the rigor of the study.

(v) Eliminating Redundancies

The researcher looked over the units of relevant meaning and eliminated those which were clearly redundant and bore no relevance to the research question. A careful note was made of the number of times a meaning was mentioned and the emphasis that was put on the meaning. The use of field notes alongside the data were advantageous in that non-verbal and para-linguistic cues often confirmed the actual emphasis and meaning, enhancing the rigor of the study.

(vi) Clustering Units of Relevant Meaning

When all the units of relevant meaning which were redundant were eliminated, the researcher reviewed the others to determine if any would naturally cluster together, to form a common theme. Hycner (1985) points out that even more so than in any of the previous procedures, the researcher exhibits his judgement and skill during the clustering stage. The researcher in the current study took steps to eliminate the possibility of potential bias by asking a small number of nurse researchers to check the process. Feedback indicated that there were no discrepancies and the themes were verified as valid. The example below shows all the clusters of relevant meanings significant to the previously mentioned interview in its entirety

Clusters of Relevant Meanings

*1. The terrible fear*

She was killing herself (almost like it breaks in)

Cigarettes were doing this to her (like a sudden awareness)

This was real (like a sudden realisation)

## 2. *The dreadfulness of the deceit*

She would never tell a patient she smoked (like it was covered up)

She told many a lie (like it was not real)

She was found out (like it was a sin)

## 3. *The awfulness of the guilt*

It was *her* health (like she was to blame)

She was a *hypocrite* (like she was a sham)

She was a *nurse* and should know better (like a sudden awakening)

Overall Theme - *Internalisation of the effects of smoking on health and professional role*

Central Theme - *Internalisation of the effects of smoking on health and professional role*

### (vii) Determining Themes From Clusters of Meaning

In going back and forth between the clusters, the researcher considered that there was an overall theme which addressed the gestalt of the clusters of meaning in the interview. This theme was identified as 'Internalisation of the effect of smoking on health and professional role'. Thus it became the central theme expressing the essence of the other clusters and remaining faithful to the aims and objectives of the study. Moreover in examining the themes it was clear that internalisation was prompted by an experience akin to a 'Damascus Road' experience.

### (viii) Writing a Summary for Each Individual Interview

Guba and Lincoln (1981) in discussing the difficulty of achieving validity in qualitative research suggest that credibility should be the criterion against which the truth value of qualitative research should be measured. Hycner (1985) discusses levels of validation and suggests that the first validity check is the participants themselves. They are able, at an experiential level to validate the findings of the research, that is, whether the findings are

valid for them. The researcher wrote a summary of the interview incorporating the themes and presented it to the interviewee to check on the truth value given to the data and to make corrections if necessary. Feedback from the interviewee identified that the summary was an accurate description of the person's experience and little further information was gathered as a result, thereby testing and verifying the credibility of the interpretation. At this point the researcher acknowledges the difficulty in contacting all the interviewees, during the analysis period. The vast number of interviews resulted in analysis of the interview data extending to one year and beyond. Consequently a number of the students (n=18) had left the country following completion of their diploma course for employment elsewhere and could not be contacted. In addition three qualified nurses were unable to be contacted.

(ix) Identifying General and Unique Themes for all the Interviews

The researcher looked for themes which may be common to most of the nurses or unique to some. In clustering themes it appeared that there were commonalities within specific groups of nurses. For example a common theme 'Internalisation of effects of smoking' was evident among all the nurses who had stopped smoking, this included both student nurses and qualified nurses. In clustering common themes from the nurses in this group, it was evident that the 'Damascus Road' type experience was the major influence prompting the nurses who stopped smoking. Similarly a set of common issues surrounding potential barriers to stopping smoking emerged among the nurses who continued to smoke. These centred around powerful relationships with cigarettes. However within this group some differences were identified between the students and the qualified nurses in that a different central theme emerged which was unique to each group. The central theme which emerged among the qualified nurses who continued to smoke was highlighted as 'The powerful love relationship with cigarettes', whereas 'The powerful relationship with peers' was identified as the central theme encompassing the student nurses who continued to smoke. These themes will be discussed in detail in Chapter Six. To determine the rigor and judgement of the researcher during this stage, the process was shared with a number of nurse research experts, who were in agreement with the commonality and uniqueness of the themes identified.

A narrative framework was utilised in phase two for analysis of the interviews, in order to access nurses' experiences of smoking. The narrative forms revealed individual nurse's construction of past and present events in relation to their smoking behaviour, and illuminated the feelings, the thoughts and desires of nurses who smoke, pertinent to the research study aims and objectives.

### Ethical Issues

Ethical approval for both phases of the study had been granted from the Medical Ethical Committee in the University of Ulster prior to commencement of the study.

Many of the ethical issues which emerged in phase one were also pertinent to this phase and these were addressed in detail earlier in this Chapter. Nevertheless when involving human beings in studies of inquiry, the importance of informed consent cannot be underestimated. In view of the researcher's close involvement with the subjects in phase one of the study, it is acknowledged that there may have been the potential for them to feel coerced into participating in the interviews in phase two. The researcher took the following steps to ensure that all subjects were aware that there was no obligation for them to remain in the study if they did not wish to. A letter explaining the purpose of phase two was sent to each potential participant in the study (see Appendix 20). The reasons for using audio-recorded interviews were explained and nurses were informed that while audio-recording was the preferred method of interviewing, nurses were not compelled to participate in this method, if they did not wish to. They were also advised that the tape-recorder would be switched off at any time during the interview if they so desired, and that they could leave the study at any time or for any reason that they felt that they were unable to continue. The fact that 82 of the 105 nurses (78%) remaining in the study at the end of phase one, agreed to participate in phase two suggests that they felt comfortable and trusted the researcher.

Having addressed the issues in relation to facilitating the nurses to make an informed consent, voluntary written consent was requested. The nurses were asked to sign a pre-formulated consent form designed for the purpose of the study (see Appendix 20) and sent with the letter inviting them to participate in phase two of the study. The issues

mentioned above were further discussed with each nurse, prior to each interview, giving the interviewee the opportunity to ask questions if clarification was necessary and to confirm intention of continuing in the study. Confidentiality of the data was particularly important in this study in view of the fact that storing of the data was necessary to allow experiences to be interpreted at a later date in the study and also because the data obtained in the audio-recorded interviews were a permanent record of the interaction. In view of the fact that a large number of interviews would be carried out (n=82) producing a vast amount of data, it was considered practical to employ three secretaries to transcribe verbatim the audio-recorded interviews. The secretaries who were personally known to the researcher were selected on their integrity, their familiarity with transcribing tapes verbatim and the fact that they lived in different parts of the country. They therefore had no knowledge of the nurses in the sample or of each other. Anonymity was achieved by coding of individual nurse's names on the audio-cassettes, the transcripts, and data which were stored. Confidentiality of the data was protected by ensuring that no other persons had access to it, except a minimal number of nurse researchers who examined the selected data for agreement of themes, thereby enabling a degree of objectivity to be attributed to the study.

In summary, the research aims of the study necessitated that data should be collected by means of multiple sources. These aims were achieved by means of quantitative and qualitative approaches to data collection and analysis. A detailed description of the findings from phase one which encompassed the intervention phase of the study follows in Chapter Five. Findings which emerged from the audio-recorded semi-structured interviews conducted in phase two, can be found in Chapter Six.

## **CHAPTER FIVE**

### **FINDINGS FROM PHASE ONE**

#### **THE SMOKING CESSATION PROGRAMME**

##### **Introduction**

The findings generated from phase one are presented in this Chapter. This phase encompassed the smoking cessation programme offered to qualified and student nurses. Data obtained from the pre and post-test questionnaire (baseline and one year) are addressed under three main headings. The first section presents findings from analysis of the baseline questionnaires with reference to similarities and differences between nurses who were in the intervention group and those who were in the reference group. The second section presents the findings which relate to smoking cessation outcomes, and includes the impact of the intervention. In the final section, findings obtained from the one year questionnaire data pertaining to the experiences of those who successfully stopped and those who continued to smoke are addressed.

A total of 110 nurses agreed to take part in the study. All completed self-administered baseline questionnaires. The sample comprised 65 student nurses in one College of Nursing and 45 qualified nurses in one Hospital Trust. As previously described in Chapter Three, 54 subjects expressed a desire to take part in the intervention and the remainder (n=56) were recruited to the reference group in accordance with their preferences. Table 1 shows the number of nurses in each group.

**Table 1. Number, Gender and Professional Status of Nurses in the Intervention and Reference Groups**

Status	Intervention Group	Reference Group
Qualified Nurses	22 (Male = 1 ) (Female = 21)	23 (Male = 1) (Female = 22)
Student Nurses	32 (Male = 3) (Female = 29)	33 (Male = 3) (Female = 30)
<b>Total</b>	<b>54</b>	<b>56</b>

The vast majority of the sample (93%) were female (n=102). The ratio of female to male recruits is indicative of the existing trend for more females than males in Northern Ireland to pursue nursing as a career.

#### **Findings From Qualified Nurses' And Student Nurses' Baseline Questionnaires**

This section describes the findings obtained from the baseline questionnaires administered to qualified nurses and student nurses (see Appendix 11 and 12). Those relevant to the qualified nurses are presented first, followed by those which relate to the student nurses.

Nonparametric statistical tests were applied to data obtained from the closed questions. In the main these involved cross tabulations and percentages and where appropriate, they are presented within this Chapter. The qualitative data obtained from the two open-ended questions were subjected to content analysis and main categories with regard to initiation of smoking and wanting to stop emerged. Where appropriate, frequency of responses are quantified and shown as percentages.

## **The Qualified Nurses' Data**

### **Characteristics of Qualified Nurses**

Forty five qualified nurses agreed to take part in the study. Twenty two were assigned to the intervention group and 23 to the reference group. Biographical details, professional characteristics and data on the smoking history of qualified nurses are presented, together with data which highlights the degree of motivation to give up smoking. This is followed by the findings which demonstrate the nurses' perceptions of the effects of smoking on their health and their role as a promoter of health.

In general, the groups were similar in professional detail. Included in the sample were a small number of nurse tutors (n=4) and senior nursing officers (n=2) as illustrated in Table 2.

**Table 2. Professional Status of the Qualified Nurses**

<b>Groups</b>	<b>Sister</b>	<b>Staff Nurse</b>	<b>Staff Midwife</b>	<b>Enrolled Nurse</b>	<b>Nurse Tutor</b>	<b>Nursing Officer</b>	<b>Total</b>
Intervention	3	6	2	8	3	0	22
Reference	2	5	2	11	1	2	23
<b>Total</b>	<b>5</b>	<b>11</b>	<b>4</b>	<b>19</b>	<b>4</b>	<b>2</b>	<b>45</b>

The nurses had been qualified from 2 to 35 years, with the majority (51%) qualified between 5 and 16 years. At the time of the study the Hospital Trust had recently introduced a day/night rota system and only a small number of qualified nurses (n=2) were on permanent night duty. Ninety five per cent of enrolled nurses were completing the enrolled nurse conversion course. There was little variation in the number of enrolled nurses who were admitted to the intervention group and the number who participated in the reference group.

The nurses were drawn from a wide range of specialist clinical areas as shown in Table 3. More qualified nurses in the reference group were employed in mental health and learning disability settings than nurses in the intervention group.



**Table 3. Clinical Specialty of the Qualified Nurses**

Area	Intervention	Reference	Total
Surgical/Gynae/ENT	4	5	9
Medicine	5	2	7
A/E and Intensive Care	3	3	6
College/Administration	3	3	6
Mental Health/Learning Disability	1	5	6
Maternity	1	3	4
Children/Neonatal	3	0	3
Theatres	2	1	3
Elderly Continuing Care	0	1	1
<b>Total</b>	<b>22</b>	<b>23</b>	<b>45</b>

Smoking History of Qualified Nurses

The majority of qualified nurses in both groups (62%) commenced their smoking habit prior to coming to nursing, with 89% of them being influenced by their peers as adolescents. The following responses to the open ended question “What influenced you to start smoking?” illustrates the power of peer relationships.

*“My peers were smoking”*

*“Peer pressure. It was the fashionable thing to do”*

*“Peers. It was the “in” thing”*

*“Most of my friends were smoking. I just joined them”*

*“When I was at school everybody was doing it. I liked it”*

Further insights into the influence of peer relationships were elicited from the interview data in phase two and these findings are presented in Chapter Six.

When comparing the smoking behaviour of qualified nurses in the intervention and reference groups, there was little difference between the two groups. The number of

cigarettes smoked in the intervention group, ranged from 5 to 40 cigarettes daily and in the reference group from 5 to 30 cigarettes. On average the majority (64%) of qualified nurses in both groups smoked 20 cigarettes daily and nearly all (82%) had been smoking for more than 10 years.

Most of the qualified nurses in the study had previously attempted to stop smoking. All nurses in the reference group (100%) had attempted to give up smoking on at least one occasion and indeed 30% attempted to quit on more than four occasions. Similarly the majority of nurses in the intervention group (68%) had attempted to give up smoking at least once, and 36% had made more than four attempts to quit. In the main, the findings suggest that qualified nurses desire to stop smoking, but experience difficulty in doing so. While a variety of approaches were employed in previous attempts to smoking cessation, no particular method was seen as more prevalent than any other. Half of the nurses (50%) in the intervention group and 35% of nurses in the reference group had not previously employed any strategy or method to stopping.

All the qualified nurses had families of varying kinds and approximately half of those in the reference group (49%) and 45% of the nurses in the intervention group had spouses, partners or parents who smoked. The importance of spouse/partner support when attempting to stop, was a factor frequently referred to by both stoppers and non stoppers and is highlighted in the third section of this Chapter.

### Health Beliefs of Qualified Nurses

In order to determine their health beliefs, a number of statements were listed and qualified nurses were asked to place a tick on the line which was closest to how they felt (see below). There was universal recognition by qualified nurses in both groups that smoking was detrimental to their health and to the health of their family. Indeed a large number of qualified nurses in both groups were experiencing some ill effect of smoking on their health. Responses are portrayed in Table 4.

**Table 4. Health Beliefs of Qualified Nurses**

<b>Statement</b>	<b>Intervention</b>	<b>Reference</b>	<b>Total</b>
Smoking affects my health	10	10	20
Smoking will affect my health	3	9	12
Smoking may affect the health of my family	8	1	9
Smoking may affect my health	1	3	4
<b>Total</b>	<b>22</b>	<b>23</b>	<b>45</b>

A considerable difference was seen in qualified nurses' perceptions of the potential future effects of smoking on health. While 9 (39%) of the nurses in the reference group felt certain that smoking would effect their future health, only 3 (14%) of the intervention group were of the same persuasion. The study did not offer any explanation why there was a difference in opinion between the two groups. In so far as the characteristics of qualified nurses were concerned, they were similar in both biographical detail and professional status.

A major difference was seen also in the findings which relate to the potential effects of smoking on the health of their family. Eight qualified nurses in the intervention group (36%) acknowledged that smoking may effect their family's health. Conversely only 1 of the reference group nurses (4%), accepted that smoking was a threat to the health of her family. Again the findings did not offer any explanation as to why there was this difference of opinion between the groups. The fact that more qualified nurses in the reference group (57%) had children living with them than did nurses in the intervention group (41%) makes it even more difficult to understand.

It was clear from content analysis of the responses to the open-ended question, "Why do you want to give up smoking?" that the majority (71%) of all qualified nurses wanted to give up smoking for health reasons. Typical responses are illustrated below.

*"Because I am aware of the health hazards to myself and to my children. It is an extremely bad habit which I would hate my children to adopt"*

*"It's an unhealthy habit and it affects the health of my family and others"*

*"Health reasons and for my child's health"*

*"For health reasons mainly. I want to be more in control of my life"*

In view of the number of nurses who continued to smoke, it was vitally important to explore this aspect more fully in phase two of the study.

#### Qualified Nurses' Perceptions of their Role as Promoters of Health

Another question explored qualified nurses' perceptions of their role as promoters of health. A number of statements were listed and they were asked to choose one response to the question "How important do you feel health promotion is in relation to the nurse's role?" It can be seen in Table 5, that all nurses in the intervention group (100%) and 96% of those in the reference group considered health promotion to be an important aspect of the nurse's role. It was necessary to explore this issue more fully, especially with respect to the potential effects of nurses' smoking behaviour on their professional role. This was again addressed in detail in phase two of the study.

**Table 5. Qualified Nurses' Perceptions of their Health Promotion Role**

Statement	Intervention	Reference	Total
It is the most important aspect	9	10	19
It is a fairly important aspect	13	12	25
It is no more important than any other aspect	0	1	1
<b>Total</b>	<b>22</b>	<b>23</b>	<b>45</b>

#### The Motivation of Qualified Nurses to Stop Smoking

Data were collected to determine the motivation of qualified nurses to stop smoking. Analysis of baseline questionnaire data identified some differences between the intervention and reference groups. The findings in responses to the question "How much do you want to give up smoking?" are presented in Table 6. These illustrate the

motivation of qualified nurses to quit. The question included a number of statements from which they were asked to choose the most appropriate one.

**Table 6. Degree of Motivation of Qualified Nurses to give up Smoking**

<b>Statement</b>	<b>Intervention</b>	<b>Reference</b>	<b>Total</b>
I want to very much	16	7	23
I would like to	6	8	14
I don't know whether I want to or not	0	5	5
I don't really want to	0	1	1
I don't want to at all	0	2	2
<b>Total</b>	<b>22</b>	<b>23</b>	<b>45</b>

All qualified nurses in the intervention group (100%) and the majority of those in the reference group (65%) claimed to want to give up smoking. In view of this it was important to examine their experiences of attempting to stop smoking in order to understand why the majority of them were not successful in their efforts to quit. This was explored in detail in phase two of the study. It is evident from the findings presented in Table 6 that 3 qualified nurses in the reference group clearly did not want to stop smoking despite expressing a desire to participate in the study. Phase two revealed that while they felt guilty to an extent about smoking, each had formulated a relationship with cigarettes which they enjoyed and did not want to give up.

In applying the Fisher's Exact Probability Test to analysis of the data, it was clear that while the majority of qualified nurses claimed to want to quit smoking, there was a significant difference in the level of motivation between the two groups ( $p < 0.01$ ) with those in the intervention group appearing more motivated. Seventy three per cent of qualified nurses in the intervention group were very motivated to give up smoking, but only 30% of nurses in the reference group displayed the same degree of motivation. This would suggest that those who were highly motivated were also more ready to take action to stop smoking and consequently they availed themselves of the opportunity to enrol in the smoking cessation intervention. Thus there may be a relationship between levels of motivation and the uptake of smoking cessation programmes.

The nurses were also asked the question "How determined are you to stop smoking?" The question comprised a number of statements from which they were asked to choose the most appropriate response. All qualified nurses in the intervention group (100%) and 61% of those in the reference group expressed varying degrees of determination to stop smoking. Once again, in applying the Fisher's Exact Probability test to analysis of the data, a significant difference in the determination levels of the two groups was demonstrated ( $p<0.01$ ). More qualified nurses in the intervention group displayed higher levels of determination than in the reference group. This is illustrated in Table 7.

**Table 7. Determination of the Qualified Nurses to give up Smoking**

Statement	Intervention	Reference	Total
I am very determined	12	1	13
I am fairly determined	10	13	23
I am neither determined nor undetermined	0	4	4
I am fairly undetermined	0	2	2
I am not determined at all	0	3	3
<b>Total</b>	<b>22</b>	<b>23</b>	<b>45</b>

It can be seen that while twelve qualified nurses in the intervention group (55%) appeared very determined to give up smoking, only one in the reference group (4%) displayed the same degree of determination to give up smoking, and nine (39%) were not determined to stop at all. Not surprisingly, it would appear that nurses who were most determined to stop smoking were also those who were most ready to quit, suggesting a correlation between determination and enrolling in the intervention programme. It would seem that while nurses in the reference group claimed to be interested in giving up smoking, most of them were not ready to make a commitment to stop and thus did not participate in the intervention.

The nurses were also asked to choose the most appropriate response from a number of statements surrounding the question "How sure are you that you could give up?". Responses are portrayed in Table 8. In common with the two previous questions the Fisher's Exact Probability Test was applied to analysis of the data and a significant difference ( $p<0.01$ ) in the confidence levels of qualified nurses to stop smoking was established. Seventy three per cent of qualified nurses in the intervention group appeared

more confident than those in the reference group (48%). This would suggest that giving support when attempting to give up smoking, does indeed reflect increasing levels of confidence as seen in nurses in the intervention group. Conversely despite the fact that nurses in the reference group indicated their preference to stop smoking without a supportive programme, more than half (52%) were unsure that they would be able to stop.

**Table 8. Confidence of Qualified Nurses in Relation to Stopping Smoking**

<b>Statement</b>	<b>Intervention</b>	<b>Reference</b>	<b>Total</b>
I am very sure	7	3	10
I am fairly sure	9	8	17
I don't know	6	9	15
I am fairly unsure	0	1	1
I am very unsure	0	2	2
<b>Total</b>	<b>23</b>	<b>23</b>	<b>45</b>

The baseline questionnaire data suggest that while qualified nurses in both the intervention and reference groups claimed they wanted to give up smoking, they were at different stages of contemplation. It would seem that those who had higher levels of motivation and enrolled in the supportive programme, were generally more ready to quit smoking. On the other hand those who displayed a lesser degree of motivation preferred to make an attempt to stop smoking on their own without the commitment of a support programme. This might suggest that they were not at the same stage of readiness to stop as nurses in the intervention group. Furthermore, while the majority of qualified nurses in both groups appeared determined to stop, the degree of determination appeared higher among nurses in the intervention group than in the reference group. This finding further supports a potential relationship between the degree of determination to stop smoking and the uptake of a supportive smoking cessation programme. While qualified nurses in the reference group preferred not to participate in the intervention, the majority of this group lacked confidence in their ability to stop. This clearly suggests that nurses like everyone else do need help when attempting to change their smoking behaviour.

In summary, the baseline questionnaires yielded data which demonstrated that the biographical characteristics, smoking history and professional characteristics of qualified nurses in the intervention and reference groups were similar. In addition, responses were

similar with reference to their perceptions of the effects of smoking on their health. All nurses (100%) expressed varying degrees of concern in relation to the effects of smoking on their own or their family's health. There was also almost a universal acceptance by qualified nurses in both groups that health promotion was an important aspect of their nurse's role. It would seem that while in the main, qualified nurses in both groups appeared to want to stop smoking, those who enrolled in the intervention group were more motivated and determined to stop and appeared more ready to take positive action. This finding supports Prochaska's (1986) transtheoretical theory of behavioural change and will be discussed in detail in Chapter Seven.

The following section describes the findings which related to the student nurses.

### **The Student Nurses' Data**

#### **Characteristics of Student Nurses**

The sample comprised 65 student nurses enrolled on a three year Diploma in Nursing Programme in one College of Nursing and who agreed to take part in the study. Of this number, 32 students indicated a preference for support in giving up smoking and were recruited to the intervention group and 33 others indicated that they wanted to stop smoking but did want to be part of a supportive programme. They were assigned to the reference group in accordance with their preferences. The sample comprised students from year one, two and three of the programme.

The age of the student nurses ranged from 17 to 36 years with the majority (62%) being 17-21 years old. Most were female (91%) and were single (91%). Sixty per cent came from families where one or more members currently smoked.



### Smoking History of the Student Nurses

The questionnaire data identified that almost all the student nurses in the intervention group (97%) and in the reference group (94%) had commenced smoking prior to coming into the nursing profession. They had been smoking from one to ten years, with 68% of them smoking between one and six years. The majority of both groups (intervention 88%, and reference 73%) smoked between 10-20 cigarettes daily. The fact that so many student nurses in the current study were regular smokers on entry to nursing, clearly highlights a need to address this issue at the beginning of their nursing programme.

Similar to qualified nurses, the major influence which initiated smoking was that of peer pressure as illustrated in the following responses to the open ended question “What influenced you to start smoking?”

*“My friends. It was fashionable at the time to smoke”.*

*“Peer pressure. I just wanted to find out what it was like”*

*“I started at school due to peer pressure”*

*“I liked watching my friends smoke. I thought it was interesting. My friends encouraged me”*

*“To be one of the crowd at school”*

As many as 78% of student nurses in the intervention group and 76% of those in the reference group identified peer pressure as the reason for commencing smoking. The power of peer friendship groups in relation to smoking, was further explored in phase two.

The majority of student nurses in the intervention group (75%) and the reference group (76%) had attempted to stop smoking in the past. In fact 38% of the intervention group and 30% of the reference group had made more than three attempts to stop. Most (84% of the intervention group and 73% of the reference group) did not utilise any specific

approach to stopping. From analysis of the data it is evident that the majority of student nurses find stopping smoking a difficult process and there is clearly a real need to offer a supportive smoking cessation programme to help them change their smoking behaviour.

### Health Beliefs of Student Nurses

The baseline questionnaire data yielded important information with regard to the students' perceptions of the effects of smoking on their health. In response to the question "How do you really feel about the effects of smoking on your health?" it was evident that they were aware of the relationship between smoking and ill health. The question comprised a list of statements from which they were asked to put a tick on the line closest to how they felt. Table 9 illustrates their responses.

**Table 9. Health Beliefs of Student Nurses in Relation to the Effect of Smoking on Their Health**

Statement	Intervention	Reference	Total
Smoking affects my health	25	15	40
Smoking will affect my health	4	8	12
Smoking may affect my health	2	6	8
Smoking may affect the health of my family and friends	1	4	5
<b>Total</b>	<b>32</b>	<b>33</b>	<b>65</b>

All student nurses (100%) in both the intervention and the reference groups accepted that smoking did or may affect their health and/or the health of their family and friends. Indeed 78% of students in the intervention group and 45% of students in the reference groups were already experiencing some ill effect of smoking on their health.

Students were clearly concerned about their health. In exploring the reasons for wanting to stop smoking, 63% of the intervention group and 58% of the reference group claimed to want to stop for health reasons. This is illustrated in the following responses to the open ended question "Why do you want to stop smoking?".

*"I think about my health and the health of those around me"*

*"Because of the health risks ... to breathe more easily, and also to prevent illness"*

*"Because it is destroying my health. It makes me feel tired, unable to concentrate and lethargic"*

*"The reason why I want to stop is because of my health. I have a lost a lot of relatives due to cancer and I feel it would be better to stop now before it is too late"*

Clearly there was a need for further exploration into the reasons why a group of student nurses expressed concern about the effects of smoking and yet the majority still continued to smoke. This area was explored more fully in phase two.

#### Student Nurses' Perceptions of their Role as Promoters of Health

To determine student nurses' perceptions of their role as promoters of health, a number of statements were presented, which focused on the question "How important do you feel health promotion is in relation to the nurse's role?". Students were asked to choose one response. Almost all student nurses in the intervention group (94%) and in the reference group (82%) agreed that health promotion was an important aspect of the nurse's role. This is illustrated in Table 10.

**Table 10. Student Nurses' Perceptions about the Importance of Health Promotion in Relation to Nurses' Role**

Statement	Intervention	Reference	Total
It is the most important aspect	7	5	12
It is a fairly important aspect	23	22	45
It is no more important than any other aspect of nurses' role	2	6	8
<b>Total</b>	<b>32</b>	<b>33</b>	<b>65</b>

In view of the fact that little is known about smoking nurses' health promotion interventions particularly in relation to smoking cessation, it was also necessary to explore this aspect of their role more fully in phase two.

### The Motivation of Student Nurses to Stop Smoking

To determine the motivation of student nurses to stop smoking, they were asked to tick the most appropriate response from a number of statements focusing on the question “How much do you want to give up smoking?”. The majority of students in the intervention group (94%) and in the reference group (61%) claimed to want to give up smoking as illustrated in Table 11.

**Table 11. Degree of Motivation of Student Nurses to Give up Smoking**

Statement	Intervention	Reference	Total
I want to very much	16	11	27
I would like to	14	9	23
I don't know whether I want to or not	2	8	10
I don't really want to	0	5	5
<b>Total</b>	<b>32</b>	<b>33</b>	<b>65</b>

The Fisher's Exact Probability Test was applied to the data comparing the responses of student nurses in the reference group with that of the intervention group and in common with the qualified nurses, a significant difference in the degree of motivation between the two groups was established ( $p < 0.01$ ). Students in the intervention group clearly displayed higher levels of motivation. While 61% of the students in the reference group expressed a desire to want to give up smoking, a further 39% were either uncertain or did not want to stop smoking. This would suggest that there were a number of students in the reference group who were not at the readiness stage to give up. This finding again supports the transtheoretical behavioural change theory (Prochaska et al 1986) and is discussed in Chapter Seven.

The Fisher's Exact Probability Test was further applied to data obtained from the question “How determined are you to stop smoking?” and it was established again, that student nurses in the intervention group were significantly more determined to stop smoking ( $p < 0.01$ ) than students in the reference group. They were asked to choose the most appropriate statement from a list of statements the responses of which are shown in Table 12.

**Table 12. Degree of Determination of Student Nurses to Give Up Smoking**

<b>Statement</b>	<b>Intervention</b>	<b>Reference</b>	<b>Total</b>
I am very determined	15	7	22
I am fairly determined	15	7	22
I am neither determined nor undetermined	2	15	17
I am fairly undetermined	0	3	3
I am not determined at all	0	1	1
<b>Total</b>	<b>32</b>	<b>33</b>	<b>65</b>

It can be seen that while 94% of students in the intervention group were determined to stop smoking many of those in the reference group (58%) were not determined to change their smoking behaviour. The findings which are in common with those of the qualified nurses suggest that a large number of students in the intervention group were seriously contemplating stopping smoking and were ready for action thus enrolling in the smoking support programme. Conversely, it would seem that while student nurses in the reference group may have been thinking about stopping smoking, the majority were not ready for action and did not want to make a commitment to the intervention programme. This finding strongly highlights the benefit of measuring motivation and determination levels in individuals prior to offering smoking cessation programmes and supports Velicer et al (1995) who suggest that smoking cessation programmes should be planned to suit individuals at the various stages of the change cycle. This is discussed in detail in Chapter Seven.

Similarly, the Fisher's Exact Probability Test was applied to the data obtained from the question "How confident are you that you will stop smoking?" establishing that students in the intervention group were significantly more confident of stopping than students in the reference group ( $p < 0.01$ ). This is clearly shown in Table 13.

**Table 13. Degree of Confidence Perceived by Student Nurses in Relation to Stopping Smoking**

<b>Statement</b>	<b>Intervention</b>	<b>Reference</b>	<b>Total</b>
I am very sure	6	5	11
I am fairly sure	19	9	28
I don't know	5	14	19
I am fairly unsure	2	3	5
I am very unsure	0	2	2
<b>Total</b>	<b>32</b>	<b>33</b>	<b>65</b>

The fact that more than half of the students in the reference group, (58%) lacked confidence in giving up smoking is important. In comparing the responses of student nurses in this group with those in the intervention group the findings tend to suggest that a supportive smoking cessation programme may indeed raise the confidence levels of individuals wanting to stop smoking.

In summary, analysis of baseline data obtained from the pre-test self-administered questionnaires, revealed that student nurses in both the intervention and reference groups were similar in biographical character, professional detail and smoking history. They also showed a similar pattern with regard to perceptions of health beliefs and health promotion role. Differences however were identified between the student groups in relation to motivation, determination and confidence to give up, with those in the intervention group appearing stronger than those in the reference group in all three areas.

Overall, the baseline questionnaires from both qualified nurses and student nurses, yielded data which demonstrated that there was little difference in the demographic characteristics and smoking history between the qualified nurses and student nurses in the intervention and reference groups. However, there was a noticeable difference in the degree of motivation, determination and confidence to stop smoking. Both qualified nurses and student nurses in the intervention group demonstrated higher levels in all three areas suggesting that they were more ready to take action to stop smoking than most of the nurses in the reference group. The findings provide important insights into the importance of determining at what stage nurses are at, when offering a smoking cessation

intervention and supports Prochaska et al's (1986) transtheoretical theory of behavioural change. This is discussed in detail in Chapter Seven.

The findings which related to the impact of the intervention and smoking cessation outcomes are presented in the following section. These demonstrate perhaps unsurprisingly, that the majority of nurses who stopped smoking were in the intervention group. The importance of objective verification of smoking status in determining smoking cessation outcomes is also highlighted.

### **Smoking Cessation Outcomes**

#### **The Impact of the Intervention**

As illustrated in Table 14, seventeen nurses were abstinent for one year. Of these 13 were in the intervention group and 4 were in the reference group constituting a 25% cessation rate among the nurses in the intervention group compared with 8% of the nurses in the reference group. In applying the Fisher's Exact Probability Test to analysis of the data, a significant difference in the cessation rates between the two groups ( $p < 0.05$ ) was established, with a much higher quit rate amongst the nurses in the intervention group than amongst those in the reference group.

**Table 14. Number of Nurses Who Were Abstinent for One Year in Each Group as Determined by Objective Measurements**

<b>Group</b>	<b>Qualified Nurses</b>	<b>Student Nurses</b>	<b>Total</b>	<b>%</b>
Intervention	5	8	13	25
Reference	2	2	4	8

Analysis of objective measurements have clearly shown that more nurses in the intervention group stopped smoking than nurses in the reference group. It appears that the intervention may have had a positive impact on the smoking behaviour of a number of nurses in the study. The findings obtained from analysis of the interview data during phase two addresses this issue more fully and are presented in detail in Chapter Six.

As discussed in Chapter Four in order that an accurate assessment of smoking cessation claims could be made, self reports of quitting smoking were compared with objective verification of smoking status employing (i) measurement of levels of carbon monoxide in expired alveolar air and (ii) measurement of cotinine concentration in samples of saliva. The final part of this section addresses the differences between the carbon monoxide levels of nurses who stopped smoking and those of nurses who continued to smoke. This is followed by an analysis of the value of cotinine measurements to determine smoking cessation outcomes.

### The Importance of Objective Verification Of Smoking Cessation

#### (a) Levels of Carbon Monoxide in Expired Alveolar Air

Smoking outcomes at one year are based on the findings of two groups (i) those who had definitely stopped and (ii) those who were continuing to smoke regardless of number smoked. Corresponding with a number of smoking cessation studies (Benowitz 1983; Cummings and Richards 1988; Velicer et al 1992), 10ppm carbon monoxide was taken as the cut off measurement representing the level against which nurses who self reported smoking cessation would be measured. Above this level they would be considered as smoking. It was also determined that to be considered a quitter, they should have stopped smoking for a continuous period of one year.

A quitter was defined as:

A nurse whose carbon monoxide levels were not higher than 10ppm when measured at 6 months and one year and saliva samples at six months and one year did not contain evidence of cotinine.



An individual who had not quit smoking was defined as:

A nurse who reported no change in smoking behaviour.

A nurse who claimed to have cut down the number of cigarettes smoked but was still smoking.

A nurse who reported having stopped smoking but whose carbon monoxide levels were higher than 10ppm at 6 months and one year and saliva samples at six months and one year contained cotinine.

The carbon monoxide levels of the sample of nurses who stopped smoking, measured at different stages over one year are presented in detail in Appendix 21. As subjects in the reference group did not participate in the intervention they were not interviewed at six weeks and carbon monoxide levels were therefore only measured at 6 months and one year.

Table 15 illustrates the difficult process of stopping smoking by nurses in the intervention and reference groups and demonstrates clearly the need to objectively verify smoking cessation outcomes at interim periods. It can be seen that while 15 nurses had stopped smoking at six months, only 9 of these remained abstinent at one year and 8 others who were smoking at 6 months had indeed stopped at one year. To ensure that they were continuously stopped for one year, this small subgroup of nurses was followed up and their smoking status monitored at 18 months. Thus the findings support Prochaska et al's (1986) theoretical model of behavioural change in that (i) smokers appear to move backwards and forwards between the stages of change and that (ii) smokers who are in the contemplation stage of behavioural change progress to action at various time spans, some taking as long as six months to take the final step.

**Table 15. The Process of Stopping Smoking by Nurses in the Intervention and Reference Groups Determined by Objective Measurements.**

Nurse No	6 weeks	6 months	1 year	18 months
001	stopped	stopped	stopped	
003	stopped	stopped	stopped	
004	smoking	smoking	stopped	stopped
008	stopped	stopped	smoking	
012	stopped	stopped	stopped	
015	smoking	smoking	stopped	stopped
021	stopped	stopped	smoking	
022	smoking	smoking	stopped	stopped
024	smoking	smoking	stopped	stopped
032	stopped	stopped	smoking	
057	*not taken	stopped	stopped	
058	*not taken	stopped	stopped	
060	stopped	stopped	smoking	
062	smoking	smoking	stopped	stopped
064	smoking	smoking	stopped	stopped
066	stopped	stopped	stopped	
067	stopped	stopped	stopped	
068	stopped	stopped	stopped	
077	stopped	stopped	stopped	
080	stopped	stopped	smoking	
086	*not taken	smoking	stopped	stopped
097	*not taken	smoking	stopped	stopped
100	stopped	stopped	smoking	

\*not taken - refers to nurses who stopped smoking in the reference group

All nurses who stopped smoking clearly had carbon monoxide levels of less than 10 ppm when measured at 6 months and one year/ eighteen months (see Appendix 21). Careful correlation of self-reports with objective verification of smoking status, revealed that 6 nurses, of whom 2 were qualified and 4 were students, claimed to have stopped smoking at one year but had carbon monoxide levels equivalent to that of a smoker. A sample of the typical carbon monoxide level profiles of a sample of nurses who continued to smoke is provided in Appendix No. 22.

### (b) Concentration of Cotinine in Saliva Samples

As described in Chapter Four, objective verification of smoking cessation also included analysing saliva samples for cotinine concentration. Samples were collected at 6 months and one year from nurses who self-reported they had stopped smoking. Nurses who had truly stopped smoking, showed no cotinine in their saliva at either measurement intervals. These measurements corresponded with decreased carbon monoxide (CO) levels as can be seen in the data presented in Appendix 22.

In general, nurses who continued to smoke had levels of cotinine in their saliva which corresponded with high carbon monoxide levels in expired air. However the data provided in Appendix 23 indicate some variance between the levels of carbon monoxide and the cotinine measurements. This can be explained in part by the fact that levels of CO were fluctuating according to when the last cigarette was smoked prior to measurement of expired air. In addition it was observed that a number of nurses did not fully exhale alveolar air thus measurements varied. This confirms the view of Etzel et al (1990) and Pichini et al (1992) that due to its long half life, measuring cotinine levels in saliva samples is a more accurate measurement of smoking status and the most appropriate approach to assessing the impact of cessation interventions. The misreporting of smoking status in this study clearly illustrates the importance of not relying on self-reports of smoking cessation.

A further questionnaire was administered one year after the baseline data had been collected (see Appendix 13 and 14). At the end of one year, 5 qualified nurses had dropped out of the study, with 40 qualified nurses and 65 student nurses remaining in the study (n=105). A retention rate of 95% was achieved. The third section addresses the findings obtained from the one year post intervention questionnaires.

### **One Year Questionnaire Data From The Nurses Who Stopped Smoking**

In this section an analysis of the findings obtained from questionnaires administered to both qualified nurses and student nurses in the intervention and reference groups one year post intervention is presented. One questionnaire was designed for the nurses who continued to smoke and a separate questionnaire was administered to those for whom there was evidence of having given up smoking. Findings from these two questionnaires are presented separately.

First, the findings which emerged from the semi-structured questionnaires obtained at one year from nurses in the study who were successful in their efforts to give up smoking are presented. The data reflect only those whose objectives measurements confirmed that they had stopped smoking. Data obtained from nurses who completed a stopped smoking questionnaire but whose objective measurements confirmed that they were still smoking (n=6) are not included. Thus the data below relates to the qualified nurses (n=7) and student nurses (n= 10) who stopped smoking for one year, in both the intervention and reference groups.

The questionnaire utilised a number of closed and open-ended questions which focused on three main areas. One section explored nurses' experiences of stopping. Another section looked at the determination and confidence of the stoppers to remain stopped and a third section explored the health beliefs and perceived importance ascribed to health promotion. The findings from each section are presented below.

### **Responses From the Student Nurses and Qualified Nurses Who Stopped Smoking**

Table 16 illustrates the number of nurses in the intervention and reference groups who stopped smoking at one year.

**Table 16. Number of Nurses who Stopped Smoking in Each Group at One Year.**

<b>Group</b>	<b>Qualified Nurses</b>	<b>Student Nurses</b>	<b>Total %</b>
Intervention Group	5	8	25
Reference Group	2	2	8

A total of 17 nurses (16% of the total number of nurses remaining in the study, n=105) stopped smoking. Data analysis revealed that 8 of the student nurses in the intervention group stopped (25%), compared with 2 in the reference group (12%), and 5 qualified nurses in the intervention group stopped (24%), compared with 2 in the reference group (11%). This constituted an overall 25% cessation rate among nurses in the intervention compared with 8% in the reference group.

The majority (71%) of all nurses who stopped smoking, had previously been smoking on average 20 cigarettes daily. In addition, all qualified nurses (100%) and 70% of student nurses who stopped smoking, had previously attempted to quit on a number of occasions. Questionnaire data demonstrated that sixteen (94%) of the stoppers, stopped 'cold turkey' and all (100%) employed behavioural or cognitive coping strategies during the stopping process. All stoppers (100%) were determined to remain stopped and 94% were confident of continued success. The findings suggest that identifying and employing coping strategies as an integral part of the cessation process may be a major factor in helping the nurse to quit smoking.

#### Reasons Given for Wanting to Stop Smoking

The majority of student nurses (60%) quit smoking for health reasons. In response to the open-ended question "What was the main thing which influenced your decision to give up?" nurses replied

*"I didn't want to die young of cancer"*

*"I was unfit, I felt miserable and very unhealthy"*

*"I didn't feel well. I kept getting chest infections"*

On the other hand, the majority of qualified nurses (57%) claimed they had stopped smoking for financial reasons. The reasons for stopping were examined in-depth in phase two and very important insights were gained and are reflected in Chapter Six.

Many of the nurses who stopped smoking, (57% of qualified nurses and 50% of student nurses) did not perceive any period during the first year of stopping as easy, thus illustrating the need for a supportive smoking cessation programme. The greatest difficulty appeared to be in relation to being with other smokers. It would seem that student nurses in particular, experienced considerable conflict in maintaining smoking cessation when with their smoking friends. This is demonstrated below, in response to the open-ended question “What other support/help (if any) would you have liked to assist you when giving up?”

*“Support and encouragement from friends”*

*“Support from those around me who smoked”*

*“It would have been nice to have had some praise and encouragement from my smoking friends and family at home”*

*“I would have liked people to have told me how wonderful I was in giving up”*

Ninety per cent of student nurses claimed they would have liked more support from their smoking friends and family when they were giving up smoking. This aspect was explored more fully during the interviews in phase two.

#### Perceived Effects of Stopping Smoking on Nurses' Role

In response to the question How important do you feel health promotion is in relation to the nurse's role? the findings revealed that all (100%) of qualified nurses and 90% of student nurses who stopped smoking, perceived health promotion as an important aspect of their nursing role. Nurses were asked to choose one response from a list of statements (see Appendix 13, question 14).

Another question explored the perceived effects of stopping smoking on the nurse's role as a promoter of health. Responses to the open-ended question "To what extent (if any) do you feel that giving up smoking has influenced your role as a promoter of health?" revealed that all (100%) of qualified and student nurses felt that stopping smoking had influenced their role as a promoter of health. Fifty nine per cent felt less hypocritical, 29% were more confident in their role and 12% claimed that they had more understanding of smoking patients' needs in relation to stopping. The responses below are typical of those obtained from the sample.

*"I now feel less hypocritical in telling others about smoking"*

*"I don't feel a hypocrite now, when I speak to patients about their smoking habit"*

*"I feel I am in a better position to act as a health promoter for clients, since I have ceased to participate in the unhealthy behaviour."*

*"I am not a hypocrite any more and I can use myself as an example"*

Little is known about the potential impact of nurses smoking on their role as promoters of health and therefore this issue was further explored in phase two of the study.

In summary, data obtained from the one year semi-structured questionnaires, revealed that nurses who stopped smoking displayed little variance in all areas of the questionnaire. No major difference in responses were identified between qualified nurses or student nurses, or between nurses in the intervention and the reference groups. In the main, while analysis of data demonstrated that qualified nurses and student nurses who stopped smoking were determined not to smoke and confident of continued success in maintaining smoking cessation, the findings did not illuminate why some nurses in the study gave up smoking and others continued to smoke. They did demonstrate that in general, nurses like anyone else do not find it easy to stop smoking. Thus, from the process of content analysis a number of issues emerged which required further exploration. These were identified as (i) experiences of nurses attempts of stopping smoking (ii) nurses' perceptions of smoking on their health and (iii) nurses' perceptions of the potential effects

of smoking on their role as a promoter of health. These issues were investigated in-depth during phase two and the findings are presented in Chapter Six.

### **One Year Questionnaire Data From Nurses Who Continued To Smoke**

This section presents findings which emerged from the semi-structured questionnaires obtained at one year from nurses in the study who were unsuccessful in their efforts to give up smoking. Data reflects only those who admitted to smoking and does not include those who self-reported they had stopped but were in fact smoking. In common with the questionnaire given to nurses who stopped smoking, a number of closed and semi-structured questions were utilised in order to elucidate their experiences of attempting to stop and also to gain insight into how they really feel in relation to smoking and the potential effects on their health and role as promoters of health (see Appendix 14). Findings are presented in two parts. However unlike the 'stoppers' the data from the students and qualified nurses differed substantially and is presented separately. Where differences were identified between the intervention and reference groups these are highlighted. First, the findings from the qualified nurses data are presented followed by that of the student nurses.

Eighty eight nurses continued to smoke. This constituted 84% of the total number of nurses (n=105) remaining in the study at one year. Table 17 demonstrates the groups to which they had been recruited.

**Table 17. Nurses who Continued to Smoke in the Intervention and Reference Groups at One Year.**

<b>Group</b>	<b>Qualified Nurses</b>	<b>Student Nurses</b>	<b>Total</b>
Intervention	16	24	40
Reference	17	13	48
<b>Total</b>	<b>33</b>	<b>55</b>	<b>88</b>

Analysis demonstrated that although expressing a desire to want to stop smoking, one third (33%) of all nurses, (both qualified and students) who continued to smoke had in fact not made any attempt to stop during the twelve months post intervention.



### **Responses From the Qualified Nurses Who Continued to Smoke**

In exploring the experiences of qualified nurses' attempts to stop smoking, there was little difference in the smoking behaviour of qualified nurses in the intervention and reference groups, or in the number in either group who attempted to give up. The majority in the intervention group (69%) and the reference group (65%) had made at least one serious attempt to stop smoking during the year, indicating a desire to change their smoking behaviour.

In response to the open-ended question, "What do you feel is the major obstacle to you stopping smoking?" 45% of the qualified nurses identified lack of motivation and determination as illustrated below.

*"I don't have the willpower"*

*"I'm not motivated to give up at present"*

*"I'm not determined enough"*

*"I don't really want to stop"*

In the main, it seemed that lack of motivation or determination was tied to family, home and work pressures. As many as 41% of qualified nurses in both groups identified family and work pressures as major barriers to stopping smoking. This area was explored in-depth in phase two.

Whilst unsuccessful in giving up smoking, during the period of the study, the majority of qualified nurses in the intervention group (93%) and the reference group (69%) still indicated that they wanted to stop smoking as shown in Table 18. Nurses were asked to choose one response from the list of statements below.

**Table 18. Expressed Degree of Motivation of the Qualified Nurses to Give Up Smoking at One Year Post Intervention**

Statement	Intervention	Reference	Total
I want to very much	5	1	6
I would like to	9	10	19
I don't know whether I want to or not	1	4	5
I don't really want to	0	1	1
<b>Total</b>	<b>15</b>	<b>16</b>	<b>31</b>

In applying the Fisher's Exact Probability test to analysis of the questionnaire data, it was established that there was no significant difference in the motivation of qualified nurses in the intervention group and in the reference group at one year post intervention.

Similarly, there was no significant difference in the determination of nurses in the intervention and reference groups. Sixty seven per cent of the intervention group and 56% of the reference group appeared to be determined to an extent to give up as shown in Table 19. As in the above question, nurses were asked to choose one response from a number of statements.

**Table 19. Expressed Degree of Determination of the Qualified Nurses to give up Smoking at One Year Post Intervention**

Statement	Intervention	Reference	Total
Very determined	3	0	3
Fairly determined	7	9	16
Neither determined nor undetermined	5	6	11
Not determined	0	1	1
<b>Total</b>	<b>15</b>	<b>16</b>	<b>31</b>

Whilst indicating a desire to stop smoking at a later date however, responses were vague and in reply to the open-ended question What are your plans for changing your smoking behaviour? all qualified nurses in both groups (100%) were unsure when they would make a further attempt to stop. Analysis of one year data did not illuminate why some qualified nurses in the intervention group gave up smoking and the majority continued to smoke. This was an area which was subsequently explored in depth in phase two.

### Perceptions of Smoking and Health One Year Post-Test Questionnaire

There was universal acceptance by qualified nurses who continued to smoke in both the intervention group and the reference group that smoking was or would affect their health. Indeed 50% of qualified nurses in the intervention group and 24% in the reference group admitted that smoking was already affecting their health. Nurses were asked to choose one response from a number of statements which related to the potential effects of smoking on their health (see Appendix 14, question 17). Nurses were not immune to feelings of guilt and it seemed that the vast majority of those who smoked experienced considerable conflict with regard to the detrimental effects of smoking on their health. Thus they employed cognitive denial strategies, examples of which are shown in the following responses to the open-ended question “How do you reconcile continuing to smoke?”

*“I try not to think about it”*

*“I tell myself it’s difficult to stop”*

*“I tell myself it’s doing no damage”*

*“I tell myself enjoyment outweighs damage”*

Responses to another open-ended question “What (if any) do you feel are the disadvantages of continuing to smoke?” illustrated that despite expressed concern about their health, nearly half the qualified nurses considered the financial aspects of smoking to be the major disadvantage of continuing to smoke. This was clearly an area requiring further exploration in phase two.

### Perceptions of Health Promotion One Year Post-Test Questionnaire

Analysis of data obtained from the semi-structured questions provided important insights into smoking nurses' perceptions of their role as promoters of health. Findings demonstrated that almost all qualified nurses who continued to smoke in the intervention group (94%) and 88% of those in the reference group, considered health promotion to be an important aspect of the nurse's role. Nurses were asked to choose one response from a number of statements which related to health promotion (See Appendix 14, question 14). Additionally, in response to the open-ended question "To what extent (if any) do you feel that your smoking effects your nursing role as a promoter of health?" 45% felt guilty about smoking and did not consider themselves as credible role models. This theme was further explored during the interviews in phase two.

In general, qualified nurses who continued to smoke tended to perceive family and home pressures as the major obstacle to stopping. Most of them expressed a desire to stop smoking at a future date, but could not identify when this might take place. While they acknowledged the detrimental effects of smoking on health, a large majority of them employed cognitive denial strategies to avoid feelings of guilt, and indeed nearly half considered the financial aspect of smoking more of a disadvantage than their health. Almost all perceived health promotion to be an important aspect of the nurse's role and nearly half acknowledged that they were not credible role models. While the findings did not illuminate why the majority of qualified nurses in the study continued to smoke, analysis of the questionnaire data did provide insights into areas requiring further examination. These issues were explored in-depth in the semi-structured interviews in phase two of the study.

### Responses From the Student Nurses Who Continued to Smoke

Analysis of data demonstrated that 96% of student nurses in the intervention group attempted to give up smoking compared with 55% in the reference group. It would seem that although there may have been a potential interest in the smoking study amongst student nurses in the reference group, approximately only half of them appeared serious about taking action.

In response to the open-ended question, “What do you feel is the major obstacle to you stopping smoking?” it was apparent that the most common obstacle in both groups was lack of determination. This appeared to be linked with peer pressure to smoke as identified by 65% of students in the intervention group and all students in the reference group. In response to the open-ended question “What (if any) support would you have liked to assist you to change your smoking behaviour?” the students replied

*“My friends to understand that I was serious about stopping”*

*“My friends to stop offering me cigarettes”*

*“My husband to give up too”*

*“My friends encouragement”*

It was evident from analysis of data that student nurses in the study perceived friends and family support to be a vital component in the decision to stop smoking. This was further explored in phase two.

In applying the Fisher’s Exact Probability Test to the data which explored motivation to stop smoking in the future, a significant difference ( $p < 0.01$ ) was established between the extent of motivation of students in the intervention group and that of the reference group. Eighty one per cent of student nurses in the intervention group claimed to want to stop smoking compared with 53% in the reference group. Students chose one statement from the list presented in Table 20.

**Table 20. Expressed Degree of Motivation of the Student Nurses to give up Smoking at One Year Post Intervention**

Statement	Intervention	Reference	Total
I want to very much	6	7	13
I would like to	11	9	20
I don't know whether I want to or not	3	8	11
I don't really want to	0	6	6
I don't want to at all	1	0	1
<b>Total</b>	<b>21</b>	<b>30</b>	<b>51</b>

However, in response to the open-ended question “What are your plans for changing your smoking behaviour?” the majority of all students continuing to smoke (73%), could not identify a specific time when they might attempt to stop smoking.

Similarly, the Fisher's Exact Probability Test was applied to the data which related to determination to stop smoking. Again, a significant difference was established between the two groups ( $p < 0.025$ ) with those in the intervention group appearing more determined to quit. In spite of this however, only 19% of students in the intervention group and 7% in the reference group appeared very determined to quit at a future date. This is clearly illustrated in Table 21.

**Table 21. Expressed Degree of Determination of the Student Nurses to Stop Smoking at One Year Post Intervention**

Statement	Intervention	Reference	Total
Very determined	4	2	6
Fairly determined	3	9	12
Neither determined nor undetermined	12	13	25
Fairly undetermined	1	3	4
Not determined	1	3	4
<b>Total</b>	<b>21</b>	<b>30</b>	<b>51</b>

In addition, the one year data revealed that less than half of the students in both groups were confident that they could stop smoking as shown in Table 22.

**Table 22. Expressed Confidence of the Students to Stop Smoking at One Year Post Intervention**

Degree of Confidence	Intervention	Reference	Total
Very Sure	2	5	7
Fairly sure	8	9	17
Don't know	9	8	17
Fairly unsure	1	5	6
Very unsure	1	3	4
<b>Total</b>	<b>21</b>	<b>30</b>	<b>51</b>

Student Nurses' Perceptions of Smoking and their Health

In common with the qualified nurses, students chose one statement from a list of statements which related to smoking and health. In exploring their perceptions of the effects of smoking on their health, almost all students (98%), who continued to smoke acknowledged that smoking was currently, or would potentially affect their health in the future. Indeed 58% of student nurses in the intervention group and 48% in the reference group admitted that smoking was already affecting their health in a variety of ways.

In responding to the open-ended question "How do you reconcile continuing to smoke?" most of the student nurses (88%) in the intervention group and 98% of those in the reference group experienced considerable conflict as shown below.

*"I feel guilty"*

*"I try not to think about it"*

*"I tell myself its doing no damage"*

*"I tell myself enjoyment outweighs damage"*

*"I tell myself it's difficult to stop"*

In spite of the apparent conflict however, the responses to the open-ended question “What (if any) do you feel are the disadvantages of continuing to smoke?” revealed that only a small majority of students in the intervention group (54%) and in the reference group (52%) mentioned their health at all. This was further explored in phase two.

### Student Nurses’ Perceptions of Health Promotion

Students were also asked, to choose one response from a list of statements which focused on the importance of health promotion. In reply to the question “To what extent (if any) do you feel that your smoking affects your nursing role as a promoter of health?” almost all students in both the intervention group (92%) and the reference group (87%) considered health promotion to be an important aspect of the nurse’s role and most felt guilty about the potential effects of smoking on their professional role. Sixty five per cent of those in the intervention group and 68% in the reference group felt they were hypocrites and not credible role models. This issue was also explored in phase two.

In the main, student nurses in the intervention group seemed more ready than those in the reference group to attempt to stop smoking. Most students in both groups however, found attempts to give up difficult, and related this to the influence of their smoking peers. In addition they felt guilty about their smoking behaviour with regard to the effects on their health and their role as a promoter of health. These areas were explored in greater depth in the phase two interviews.

### Summary

This Chapter has provided an overview of the findings obtained from questionnaire data pre and post intervention. Qualified nurses and students nurses in the intervention and reference groups displayed similar profiles except in their degree of motivation, determination and confidence to stop smoking. Those portraying higher levels of motivation and determination to stop smoking, tended to enrol in the intervention. A significantly greater proportion of nurses from the intervention group (25%) stopped smoking than in the reference group (8%). This suggests that the intervention acted as a catalyst for qualified nurses and student nurses who were ready to stop smoking. The



intervention also included identification of support mechanisms and coping strategies and it is possible that this was a major factor in helping those who were successful in stopping smoking, to maintain smoking cessation one year post intervention. In describing the experiences of nurses in their attempts to stop smoking, those who were successful in stopping, continued to display high levels of determination and confidence in the maintenance stage of cessation. A major obstacle to students stopping smoking, appeared to be that of peer relationships, while qualified nurses identified family and home pressures. The data demonstrated that all nurses regardless of professional status or group were aware of the effects of smoking on their health or on their role as promoters of health, and that in fact the majority experienced considerable conflict.

Phase two examined more fully the main issues which emerged from phase one, and which required further exploration. These were identified as (i) experiences of nurses' attempts of stopping smoking; (ii) nurses' perceptions of smoking on their health; and (iii) nurses' perceptions of the potential effects of smoking on their role as a promoter of health. The findings from the semi-structured interviews are presented in Chapter Six.

## **CHAPTER SIX**

### **TO SMOKE OR NOT TO SMOKE**

#### **FINDINGS FROM THE IN DEPTH INTERVIEWS**

##### **Introduction**

The following Chapter addresses the findings generated from the taped recorded interviews. These findings illuminate the reasons why some 17 nurses in the study stopped smoking while the remaining 88 nurses continue to smoke. Data were derived from thematic analysis of semi- structured interviews conducted with a total of 53 student nurses and 29 qualified nurses (n=82). This constitutes 84% of the total sample recruited to the study (n=110).

All interviews were tape recorded and lasted an average of 30 minutes with a range from 20 - 45 minutes. The methods employed by the researcher to minimise bias have been described in Chapter Four.

From analysis of the transcript data, a number of important factors emerged which appeared to influence whether the participants stopped smoking or continue to smoke. These included a powerful 'Damascus Road' type experience which provoked internalisation of the detrimental effects of smoking and resulted in a number of both qualified nurses and students nurses stopping smoking. Conversely many of the qualified nurses who continue to smoke display an intimate relationship with cigarettes which appears to override their knowledge of the detrimental effects of smoking. Moreover, student nurses who continue to smoke, appear influenced strongly by the power of their relationships with smoking peers and the colluding environment. The findings are presented under three main sections. The first section provides an overview of the feelings and experiences of qualified nurses and student nurses who were successful in stopping smoking. The next, offers insights into the feelings and experiences of the group of qualified nurses who continue to smoke. The final section addresses the findings which relate to the student nurses who did not stop smoking.

Thematic analysis of the data obtained from qualified and student nurses who stopped smoking, indicated the following themes:

The terrible fear

The guilt and dreadfulness of the deceit in relation to their professional role

The awfulness of the guilt in relation to their health and family health

In contrast, the themes which emerged from the data obtained from the qualified nurses who continue to smoke were identified as:

The ability to deny the impact of their smoking behaviour

The strength of the relationship with cigarettes

Similarly, the following themes emerged from the data obtained from the student nurses who did not stop smoking:

The powerful relationship with peers

The 'colluding environment'.

The uncertain role as promoters of health

The next section addresses the findings which relate to the qualified nurses and student nurses who successfully stopped smoking.

## **THE STUDENT AND QUALIFIED NURSES WHO GAVE UP: THEIR LIVED EXPERIENCES**

The goal of narrative explanations is to provide an intelligible, comprehensive rendering of why something happened. It provides the researcher with a special access to the human experience of time, order and change (Sandelowski 1991). It strives to "interpret and understand" rather than to "observe and explain" and finds its beginning and end in the practical acting of everyday life (Van Manen et al 1987). To understand 'lived through experience' is to go beyond the taken-for-granted aspects of life. It is to

“uncover meanings in everyday practice in such a way that they are not destroyed, distorted, decontextualized, trivialized or sentimentalized” (Benner, 1985 p. 6.)

Thematic analysis of rich data obtained from the interviews provided powerful insights into the ‘lived experiences’ and feelings of nurses when stopping smoking. Seventeen individuals (7 qualified nurses and 10 student nurses) stopped smoking, comprising 25% of the intervention group and 8% of the reference group. In general, the experience of giving up smoking was very similar between students and qualified nurses and between those in the intervention and reference groups. The exception to this was the perceived influence of the intervention itself by those in the intervention group. It was also similar between the predominantly female group of nurses and the one male nurse who quit. Findings from the groups of stoppers have been collated and are presented in combination in the first section of this Chapter.

The nurses who stopped smoking were asked the simple question "Why did you stop smoking?" This question usually prompted them to relate their experiences and perceptions of stopping and provided rich data which illuminated the reasons why they stopped. Through prompts and further questions directed towards their perceptions of effects of smoking on health and role as a promoter of health, in-depth data were obtained which also provided insights into reasons for stopping. Responses were analysed using a process of thematic analysis. Those who stopped smoking all described a ‘Damascus Road’ type experience. Whilst manifesting itself in different guises, the power of acknowledging the effects of smoking on their health, and/or role as promoter of health influenced the process of confrontation and internalisation, and resulted in smoking cessation. As previously mentioned, the themes surrounding internalisation were clearly,

The terrible fear

The guilt and dreadfulness of the deceit in relation to their professional role

The awfulness of the guilt in relation to their health and family health

In quantifying responses, more qualified nurses tended to mention the discomfort they experienced when exposed and confronted as being a smoking nurse by either a patient or relative or alternatively, family or friend. Student nurses on the other hand were more

likely to respond to confrontation from evidence ascribed to the detrimental effects of smoking on their health, as visually observed in their carbon monoxide measurements and also through discussion of their health beliefs and health promotion role.

Internalisation, refers to the process through which an individual transforms a formerly externally prescribed regulation or value into an internal one. In internalisation one "takes on" the value or regulation as one's own (Ryan et al 1993). In relation to smoking behaviour change, the theory behind internalisation is that if an individual internalises, he/she will form his/her own preferences and norms in response to social pressure and smoking conduct will be affected by the former. Internalised effects which involve private acceptance of the phenomena are likely to predominate when the behaviour in question is considered to be a matter of personal responsibility. Internalisation is thus a potentially important mechanism for change. Overt behaviour becomes internalised, resulting in changes in the way the person sees himself or herself and thereby leading to changes in subsequent behaviour (Tice 1994).

The following extracts demonstrate the tremendous impact the 'Damascus Road' type experience had on qualified and student nurses and clearly reflect the themes surrounding this experience. In order to protect the participants, the names of the nurses have been changed.

### **The Terrible Fear**

This section demonstrates the effect of the 'Damascus Road' type experience on the nurses who stopped smoking. The content clearly indicates fear. In addition the impact of the carbon monoxide intervention and discussion is plainly seen.

(Q/N): Amy was struck with fear, she could hardly breathe. She knew it was the cigarettes. She recalls:

*"I got a chest infection. I was gaspin', gaspin' for breath. I could hardly breathe. I was really frightened. I thought, why am I doing this? Why am I doing this to myself? The more I thought, I said this is stupid, this is stupid, I have to wise up. I stopped just like that."*

Similarly, (Q/N): Magda admitted she was afraid and couldn't sleep.

*"I had a bad chest infection. I could hardly breathe. My chest was sore. There were a few nights I was lying up in bed ... I couldn't sleep and I was thinking you know ... I could ... I could wake up in the morning and have something wrong with my chest and have to go for investigations and find out that I've got cancer somewhere and I just thought "well I don't want to die young." That really frightened me the prospect of dying young, so I thought I'm going to have to do something about it. I knew I had to and I did."*

(Q/N): Kath was afraid she realised that it was the cigarettes that were causing her to be out of breath.

*"I found that if I walked up the stairs, if I was running anywhere in a hurry, I was totally out of breath. I was afraid ... I thought Oh Lord you know, you are 33 years of age and you are running here and you can't get a breath ... it's the cigarettes. It must be ... who are you foolin ... you know it's the cigarettes."*

Similarly, (Q/N): Sue knew that smoking was causing her to be breathless when running up the stairs.

*"I thought smoking is doing you no good. I was breathless running up the stairs. That frightened me. I couldn't think of a good enough excuse to smoke. I had to stop."*

The tremendous revelation of the effects of smoking on their health struck nurses in various ways as further illustrated below.

(Q/N): Pam perceived that smoking was stopping her from becoming pregnant. She relates:

*"I wanted a baby and I wasn't conceiving, and I thought "well people say that if you are a smoker then that reduces your chance of getting pregnant and I thought it's the smoking ... it's keeping me from becoming pregnant. I was frightened, and if I did become pregnant, how could I bring a baby up in this smoky atmosphere ... and I'm a nurse and I'm doing this. Why am I doing this?"*

Additionally data analysis revealed that a number of nurses who stopped smoking were suddenly confronted with the psychological effect of smoking on their health. There was

a tremendous realisation that cigarettes were controlling their lives as illustrated below.

(Std/n): June suddenly realised that cigarettes were controlling her.

*"I never thought of my health, and even when the children said "mum you are going to die" I didn't think about it. Then one night I ran out of cigarettes. It was late and I walked 2 miles for cigarettes. I thought this is crazy. I wouldn't do this for bread. I began to think. I thought they are controlling me ... dictating to me ... what sort of a model am I. I saw cigarettes for what they are. I saw what they were doing to me. I was afraid ... I had to stop. I had to. They were controlling my life."*

(Std.n): Tom also realised that cigarettes were controlling him.

*"Smoking was controlling me ... that really scared me ... that made me think. Smoking was pulling me away from my non-smoking friends. If I was out for dinner even though I was enjoying the company, I had to make an excuse to go home early to have a smoke. I was losing ... that scared me. I said that's it."*

(Q/N): Debbie admitted that she smoked even when she was ill.

*"I didn't like the control they had over me. It lowered my self esteem. I don't like being controlled, but they controlled me. I smoked when I couldn't smoke ... when I was ill, and I couldn't breathe. They controlled me. That frightened me."*

A number of students in the intervention group and to a lesser degree qualified nurses, were profoundly affected when confronted with the reality of their carbon monoxide measurements. The data suggest that measuring carbon monoxide levels and promoting exploration of smoking behaviour, acted as a catalyst to helping nurses make the link between their smoking behaviour and their health, and subsequently to stop smoking. This can be seen in the following responses.

(Std.n): Deirdre saw her carbon monoxide levels and was shocked.

*"I think it was seeing my carbon monoxide levels ... that was a real shock ... that really made me think. I felt scared. Here was I a nurse who should know better and yet I continued to smoke. I hardly had a puff. I would see Chronic Obstructive Airways patients and I would say, "God no, I don't want to end up like that". I would see asthmatic children and I kept thinking I shouldn't be smoking around my child. I had to stop. I had to."*

(Std.n): Jill was scared when she saw her carbon monoxide levels.

*"When you did my CO levels you know that did scare me ... that was real...that was my health. I began to think this is unnatural takin in smoke and puffin out smoke, it's bound to play havoc with my health in a few years."*

(Std.n): Marlene was really shocked when she saw what smoking was doing to her.

*"Seeing my CO levels that was a real shock, a real shock ... that made me think, that really made me think what smoking was doing to me. I was afraid.."*

(Q/N): Christine never thought about what smoking might be doing to her health until she saw her carbon monoxide levels.

*"I wasn't interested in the damage that it was doing. You don't think about the ill effects, you really don't. You just keep puffing away. When I saw my carbon monoxide levels that really made me think. Nurses deny the ill effects on themselves ... they definitely do. I denied it for 10 or 12 years, but when I saw my carbon monoxide levels, I began to notice patients on the ward, especially patients with COAD and I would have thought "Oh Lord, I don't want to end up like that, not having a breath."*

Analysis also revealed that a number of students in the intervention group who stopped smoking, became concerned about their health following exploration of their health beliefs and reasons for smoking.

(Std.n): Emma was afraid during the questions, because she knew that she should not smoke.

*"I took real fear in what you were saying. The questions made me think. When I went to the ward, I nursed a woman with COAD ... it was ghastly, it was ghastly. She hadn't a breath, and she smoked all her life, and I said "Oh God, I hope I don't end up like that. I began to think of all the reasons I shouldn't smoke. I was having colds ... I began to think I don't want to be like that. I had to stop. I had to stop."*

Exploration of health beliefs provoked (Std.n): Tom to reflect on the controlling aspects of smoking.



*"After the questions I began to think why do I smoke? Going to the ward showed me there were young men there with heart disease, and I saw them as smokers. Yes I saw them as smokers. That scared me. I thought, I am doing exercise. I am trying to balance it up, the negative side, but I am losing ... smoking is controlling me. I'm just like ... just like these men who are smokers."*

(Std.n): Janet admitted that she was short of breath and asked herself why she smoked.

*"After the questions I began to think ... why do I smoke? I do have shortness of breath. Why do I do it? I began to notice patients on the ward especially obstructive airways ... as blue as bilberries. I thought that could be me."*

(Std.n): Connie also began to question why she smoked.

*"It was after we were talking that I got afraid and I kept asking myself why do I smoke? I didn't want to end up like that woman in the ward. She couldn't even wash her face, and I knew that smoking was doing me no good."*

It is evident that a number of nurses who were successful in stopping smoking were suddenly struck by a tremendous revelation and fear that smoking was potentially damaging their health. There seems little doubt that the impact of this 'Damascus Road' type experience influenced their ability to give up smoking.

It was clear also, that the impact of the effect of smoking on their health promotion role, stimulated a number of nurses to stop smoking.

### **The Guilt and Dreadfulness of the Deceit**

#### **Acknowledging the Effects of Smoking on Their Professional Role**

Thematic analysis illuminated the fact that a number of nurses stopped smoking following an acknowledgement of the effects of smoking on their role as a promoter of health. Confrontation by patients and/or their relatives had the profound effect of stimulating the nurses to internalise the incompatibility of their smoking behaviour with their nurses' role. The following excerpts illustrate the degree of guilt experienced by nurses when "caught out" and the dreadfulness of their deceit was revealed.

(Q/N): Pam felt so ashamed. She was in the canteen having a smoke, when she was noticed by a patient's relative.

*"Oh I felt so guilty. I remember I was in the canteen and relatives came in and I thought they are thinking "my goodness, imagine that girl looking after my husband, smoking her brains out and looking after my husband". Then one of the relatives said "why do you smoke and you are a nurse?" I felt awful. I thought why does he look at me like that? Why ... I felt so ashamed. I couldn't tell them."*

(Q/N): Sue had always denied she was a smoker. Then suddenly a relative saw her smoking. She recalls:

*"I would have denied I was a smoker ... "Who me ... No." I wanted them to see a wee healthy nurse. Nurses don't smoke. Then I was found out. I had just done a spiel about smoking to the man and went down to tea, to the smoking room. I nearly died. There I was puffing away and his nephew came into me and said, "Well I would never have taken you for a smoker the way you were talking up in the ward". I felt sick ... I felt really sick. I couldn't wait to get out of there. You know coming back to the ward, I kept thinking what are those people thinking. They must be thinking "Huh! she might as well talk to the wall. It must be something that runs off the top of her head. She doesn't mean a word of it". That hurt me ... that really hurt me. I was just an old hypocrite ... nothing else but an old hypocrite."*

(Q/N): Christine admitted she would never tell patients that she smoked.

*"I hated health promoting. They would say "do you smoke?" I would never tell them that I smoked. I told many a lie to cover myself. Then one said " why do you smoke and you are a nice girl? I felt terrible. I felt so insincere. I couldn't look him in the face. I wanted to run away. I kept thinking, I can't promote health. I can't do it properly. That made me decide to stop."*

(Q/N:) Magda felt ashamed that a patient had pointed out her smoking to her.

*"I felt guilty. I felt guilty as a nurse. I felt so ashamed when I was caught out. There's nothing as bad as having to take a red face and say "well yes I do smoke". That's what got to me ... a patient pointing it out to me. That made me feel very small. I felt bad for being caught out. I just paid lip service to it. I felt really bad. I said to myself there's no point in doing it in half measures, you have to put your whole heart in it. You have to do it right. You have to quit."*

(Std.n): Connie also felt ashamed when the patient asked why she didn't stop smoking. She reflects:

*"I felt a total hypocrite ... like if a patient doesn't know you smoke it's different, but if he knows and smells it off you it's terrible. When he said "Oh yea ... sure, if you really believe that, you'd stop yourself, my face flew off me. I felt so ashamed. I couldn't say anything more. I had to take a good long look at myself."*

(Std.n): Deirdre felt guilty, when the patient asked her did she smoke.

*"I felt guilty ... a hypocrite. There I was telling people not to smoke and there I was doing it myself. When he asked "do you smoke?" I didn't know what to say, whether to say I did or I didn't. I didn't want to tell lies, but I couldn't bluff. He could probably smell it off me anyway. I told him I smoked and I felt totally two faced. I hated it. I felt so guilty. For me to carry out this role adequately and effectively I would have to be a very good role model and I wasn't. I didn't hang around too much."*

(Std.n): Emma began to think. A nurse who smoked - that sounded horrible.

*"When you said "What is it like to be a nurse who smokes?" that was horrible. A nurse who smokes ... that sounds horrible doesn't it? I never thought about it like that... a nurse who smokes. I've never had to face the situation where someone has said, "You're a nurse and you smoke ... Look at you smoking, and you are a nurse." I never thought about it like that. When you said it to me, it made me think ... a nurse who smokes ... horrible ... horrible. I don't want to be a nurse who smokes."*

Considerable guilt was also associated with the acknowledgement of the effects of smoking on their health and family health and the fact that they were a nurse.

### **The Awfulness of the Guilt**

#### **Acknowledging the Effects of Smoking on Their Health and Family Health**

Analysis revealed that a powerful 'Damascus Road' type experience following confrontation by family, friends and others impacted greatly on nurses who stopped smoking and provoked them to internalise the effects of their smoking on their health and family health. The major stimulus appeared to be the tremendous guilt they experienced when confronted with the fact that they were a nurse and should know better. This is

illustrated in the following statements.

(Q/N): Kath was anxious in case the teacher found out that she was a smoker.

*"My child was diagnosed asthma and I began to think "Did I do it? It must be my smoking. What if the teacher finds out that I smoke and I'm a nurse?. What would she think of me?". I asked myself a lot of questions "Why do I smoke? It's dirty. It's filthy". I began to think. I said I've smoked my last cigarette."*

(Q/N): Amy felt guilty when her boyfriend questioned her about smoking.

*"I never really thought of the harm they were doing and then my boyfriend constantly kept asking me "How many have you smoked today and, you're a nurse, you should know better and, you know the risks, why do you keep doing it?" I felt the lowest of the low. How dare I call myself a nurse and me sitting damaging my health. You know I really did feel guilty about it. I thought I'll have to do something about it."*

(Std.n): Kelly knew she should know better. She is a nurse.

*"I never thought about my smoking and then my daughter kept saying "Mum why do you smoke and you're a nurse, you should know better?" I began to think. It bugged me ... she was right. I began to think. I finally made up my mind to stop."*

(Std.n): June questioned what sort of an example she was.

*"The children kept on and on at me, "Mum we don't want you to die ... you are going to get cancer ... you shouldn't smoke ... why do you smoke?" They suddenly made me think, what sort of a role model was I? What sort of an example was I. Here were my children telling me that I shouldn't smoke, and I am a nurse and I should know better."*

(Std.n): Laura didn't think about the ill effects of smoking until her friend questioned her about smoking.

*"Even though there is Coronary Heart Disease in the family ... my mum died from a smoking related illness ... it never crossed my mind. I knew the dangers, but I still enjoyed a cigarette. You don't think you are doing yourself any harm. I was smoking for a very long time. It really went right down into the bottom of my lungs. I got the good of it (laugh). Then my friend said "Why are you still*

*smoking and you a nurse?" It really hit me. It really made me think, I should know better. She was right."*

It seems clear that an overarching factor in stopping smoking was that of a powerful 'Damascus Road' type experience, which was stimulated by (i) fear in relation to physical or emotional effects of smoking on their health (ii) guilt pertaining to their role as a promoter of health and/or, (iii) guilt in relation to their health and that of their family. Whatever form the confrontation took, the tremendous impact of the revelation resulted in internalisation of the detrimental effects of their smoking on their personal and professional life and an urgent resolve to stop smoking.

In summary, internalisation is defined as a condition of incorporation of norms and/or roles into one's own personality, with a corresponding obligation to act accordingly or suffer guilt (Bem 1972; Baumeister 1982; 1986). This would relate to the nurses in the current study, who experienced guilt in relation to their smoking behaviour for whatever reason, and stopped smoking. Internalisation is often used in conjunction with the related concept of identification which usually refers to an emotional attachment to an object or person and a desire to please and/or imitate it. This theory proposes that identification is the major process which leads to internalisation. Bem (1972) provides an important background for understanding self concept change resulting from internalisation of behaviour. According to self perception theory, people learn about themselves much the same way as they learn about others. People observe their own overt behaviour and form generalisations or make inferences regarding that behaviour in the same way as they observe other people's behaviour and draw inferences and generalisations about them (Tice 1994). Not all behaviours however lead to revisions in the person's view of self (Swann et al 1983; Rhodewalt et al 1986). Only when people attribute their behaviour to their own inner dispositions are they likely to use these actions as a basis for altering their views of self and making a change in behaviour. While in principle, this pattern of self-perception occurs inside the individual and does not involve other people, in practice experiments designed to support the theory have included the presence of other stimuli to create public interpersonal contacts (Tice 1994). In discussing internalisation, Baumeister (1982, 1986) Gollwitzer (1986) and Rhodewalt et al (1986) acknowledge the importance of social interaction in constructing and modifying the self concept. They suggest that seeing oneself through other people's eyes can intensify the effect of certain behaviours

and stimulate internalisation and behaviour change. This was clearly evident among the nurses who stopped smoking in the current study.

The second section of this Chapter explores the everyday world of qualified nurses in the study who continued to smoke.

## **THE QUALIFIED NURSES WHO CONTINUED TO SMOKE: THEIR LIVED EXPERIENCES**

The findings derived from the audio recorded interviews shed important insights into the reasons why the qualified nurses in this study continue to smoke. It was clear that in contrast with the nurses who had a powerful ‘Damascus Road’ type experience which illuminated the effects of their smoking and caused them to quit, non-stoppers had not internalised the effects of smoking on their health or on their role as a promoter of health. In response to the question “Why do you continue to smoke?” the same themes emerged from the data obtained from both the intervention and reference groups. These are “The Ability to Deny the Impact of their Smoking Behaviour” and “The Strength of the Relationship with Cigarettes”. While qualified nurses are not complacent about the detrimental effects of smoking on their health, they appear to have an amazing ability to deny the potential hazards of smoking and in turn form powerful relationships with cigarettes.

Freud (1948) believed that resistance was conscious and was an expression of the person’s negativism. Initially it was seen as an obstacle to be eliminated. Freud identified various types of resistance, deriving from ego, id and superego. One type derived from ego is called repression resistance and has to do with the barrier erected by the ego to keep out of consciousness the forbidden, anxiety-provoking libidinal drives, which are constantly threatening to break through. Analysis of data derived from qualified nurses who continue to smoke identified that a large majority of smoking nurses participate in this form of resistance which hinders confrontation and ultimately internalisation, from taking place.

Another form of resistance derives from the id and is identified as fuelling the repetition compulsion. Hence once it has attached to its objects, it is reluctant to give it up. A third form of resistance which also derives from the ego has to do with ways in which being ill provides secondary gain. Such secondary gains include the need to have the situation taken out of one's hands and not to have to take responsibility for one's actions.

Data suggest that denial is an essential component of the everyday lives of qualified nurses in this study who continue to smoke. This is clearly demonstrated in the following section.

### **The Ability to Deny the Impact of Their Smoking Behaviour**

There is no doubt, that the powerful relationship with cigarettes enables qualified nurses who continue to smoke, to block out serious thoughts in relation to the impact of their smoking behaviour on their professional role. The same process of denial is applied to serious thoughts about smoking and its effect on their health and the health of their family.

### **Denial of Impact on Own Health and Family Health**

The following quotations illustrate the extent to which qualified nurses in this study go, in order to deny the potential effects of smoking on their health.

(Q/N): Hazel admits she makes a serious effort not to look at her smoking from a health point of view.

*"I never even think about it. It's completely blocked out. I really haven't looked at it from a health point of view. Sometimes it comes to the fore just for a minute and I push it back again. I never think of it. It's completely blocked out and I never think about it."*

(Q/N): Joan also feels safe so long as she can keep her thoughts in the back of her mind.

*"I put that to the back of my mind ... try not to think about ... try not to feel about it ... keep it safely tucked in the back of my mind. So long as I keep it there I'm alright."*

(Q/N): Similarly, Megan blocks out the thought of what smoking might do to her.

*"I don't look further than today. It isn't something that is in the forefront of my mind. It's something I'm vaguely aware of but it's never ... rarely ever, comes to the conscious ... Never. I enjoy a cigarette and I don't consciously think what it's doing to me. It's not there. It's completely blocked out ... Totally, totally blocked out"*

(Q/N): Muriel consciously keeps herself from thinking about the effects of smoking.

*"I actually don't think about the ill effects ... genuinely don't think of them ... Never. I think you just put it to the back of your mind, and it's probably there, fleeting thoughts, but you don't think about it. You make a conscious effort to keep it to the back of your mind."*

(Q/N): Roberta can't think about it. If she does she gets scared.

*"You have to detach yourself. Sometimes you think about it just for a minute and you get scared. It's not easy to put it out of your mind, but you have to. You can't think about it. It's always tucked away in the back of your mind."*

Similarly, (Q/N): Belle must not dwell on smoking or she feels weak.

*"I have to put it out of my mind. I can't dwell on it, because that's admitting I'm weak. If I allow myself to think about it I feel a fool ... I feel weak, and I don't like weak people. It bothers me that something has such a grip on me. It lowers my self esteem, that bothers me. If I don't think about it, it goes into fleeting thoughts and I can live with it."*

In addition analysis of data indicate that some qualified nurses not only block out thoughts about the potential effects of their smoking behaviour, they go a step further and deny possible evidence when confronted with serious personal and/or family ill health. Data analysis suggest that while these nurses experience varying degrees of guilt pertaining to their smoking behaviour, the relationship with cigarettes is so powerful that



they do not stop smoking. This is contrary to the nurses who had the tremendous 'Damascus Road' type experience and stopped smoking. Despite possible evidence and feelings of guilt, the relationship with cigarettes is paramount with qualified nurses who continue to smoke. This is vividly illustrated in the ensuing statements.

(Q/N): Martha knows only too well what smoking does to her health, but she tells herself she needs cigarettes.

*"You know what it does, you know it is not a healthy thing to do, but you have to ignore it ... not dwell on it. It's not an easy thing to do but you choose to ignore the effects. You come to the stage of accepting "Well if it happens, it happens". You make that choice. I've noticed my toes this past while, white ... colder than they should be, and I think "Oh God, circulation, damage done, but you have to rationalise it ... you have to. You tell yourself, I need my cigarettes"*

(Q/N): Vicky says her health would need to deteriorate more before she would stop smoking.

*"I think if my health deteriorated even more, I might have to think about giving up. I do get puffed when I'm walking but at the moment I need my cigarettes and so long as I take my inhaler for my asthma before I smoke, I'm reasonably healthy. At the moment I don't have to take it every time I smoke, maybe just once or twice every day."*

Balancing the guilt of denying possible evidence of the effects of smoking on health with the need for the personal relationship with cigarettes is dramatically illustrated in the subsequent nurse's reply

(Q/N): Rhoda knows she should do something about stopping, but she switches off and pretends it doesn't matter.

*"I know I should be doing something about it. I had a ( ... ) test and it showed an abnormality of the cells, but if I went back and had another test and he said, "Right you have such and such a cancer or you have to get something done, I think ... I think I would probably have to seriously think about stopping. I know it sounds terrible that you have to go that far before you consider really, really doing something to actually stop, but I think if I was to look at it honestly, that's what it would take for me to stop smoking, my health to deteriorate more, because when you need your cigarettes, you can switch off and pretend it doesn't matter."*

The power of the relationship with cigarettes is further seen in the following extract.

(Q/N): Anne has been diagnosed angina, but she tells herself cancer would be worse.

*"Cigarettes are something you have to have and you don't think about your health. You have to have your cigarettes. They are the only thing that brings enjoyment. Yes, you know you're short of breath, you know you can't run, you know its going to kill you, you know you've been diagnosed angina, and you say to yourself maybe my arteries are clogged due to cigarette smoke but they mightn't clog anymore at this stage and they mightn't unclog anyway if I stop smoking. There's nothing anyone can do if they are already clogged up. You know you've damaged your health but cigarettes are the only enjoyment you have, and you rationalise it and tell yourself that angina is bad but at least you haven't cancer ... that would be worse."*

Additionally, analysis of data highlighted that when a profound health crisis occurred within the family, the relationship with cigarettes was stronger than the guilt. This can be clearly seen in the following quotations.

(Q/N): Margaret has two children who have asthma. She tells herself it might not be caused by cigarettes.

*"It's the guilt that I feel because my two children have asthma. They are quite bad and your inside twists with guilt when you look at them, and you think "I smoke" and then you say, "maybe its not the cigarettes" but I think if something serious happened to the children ... if I took them to the doctor and discovered that there was something seriously or terminally wrong with them as a result of my smoking, or if they were suffering or suffering more, other than their asthma, and it was as a result of my smoking, I might do something about it then, but it would have to be something very serious."*

Repeated incidents emerging from the data indicate that it makes no difference what degree of health crisis occurs, it is not strong enough to break the relationship with cigarettes. Denial is still of paramount importance. This is clearly demonstrated in the following accounts.

(Q/N): Maureen watched her mother dying of cancer and although she had smoked all her life, she looked for another reason for her dying.

*"I don't know what would make me stop. I watched my mother smoke all her life and she was dying of cancer. She wouldn't stop and she wouldn't dream of stopping. I sat and smoked with her until she died. I watched her and kept looking for another reason why she had lung cancer. All the time I'm looking for any other reason ... another reason for dying."*

(Q/N): Brigid thinks that she might stop smoking if she knew she was going to die.

*"Maybe if I ... if I had a very, very, bad time health wise or maybe if I went to the doctor and the doctor told me that if I didn't give up cigarettes that I was going to die within a couple of weeks or something like that ... maybe that would stop me. Maybe I'm prepared to let it go that far, I don't know. I thought about it last December when my sister died, but I said to myself "Och you'll be alright." I have two sisters who smoked all their lives and they were diagnosed cancer ... one has since died, the other who was diagnosed a year later hasn't, but I think it would have to come closer to me than that to make me stop. Maybe if I knew that I was going to die ... "*

(Q/N): Joan pictures her child's lungs and what she is doing to them, but doesn't know how she would manage without cigarettes?

*"I have terrible conflict ... I need my cigarettes. They are my crutch ... they relax me. I've started to cough and I feel very very bad and the child, he's coughing. It makes me feel very very bad when I hear him coughing at night and I have to let him sleep bolt upright so that he doesn't cough so much. I feel very, very bad about that. It must be me. I'm smoking 40 a day at home. I picture his lungs and what I'm doing to his lungs. How much longer am I going to wait? How will I manage without my cigarettes? I can't manage without my cigarettes. It's always on my mind ... What am I going to do?"*

The excerpts have highlighted the power of the relationship with cigarettes and the extent of denial which qualified nurses demonstrate when confronted with the reality of the detrimental effects of smoking on the health of either self or family. It seems clear that the majority of qualified nurses in this study are powerless to break the strong relationship with cigarettes and continue to deny even when confronted with the serious consequences of continuing to smoke.

In the next section, findings are presented which demonstrate that in addition to denial of health, the power of the relationship with cigarettes constitutes denial in relation to their professional role as promoters of health.

### Denial Pertaining to Role as Promoter of Health

Analysis of data revealed that many smoking qualified nurses experience considerable guilt in relation to their role as promoters of health. They consequently adopt ways of attempting to deal with this guilt, from denying that they smoke to confessing to patients that they smoke. It would seem from the excerpts below that instead of offering authentic health promotion interventions, many qualified nurses in the study substitute limited and virtually ineffective forms of health promotion while others choose to ignore the fact that patients smoke and abdicate their role as promoters of health.

(Q/N): Erica knows she is living a lie. Mentally the cigarette is there.

*"I feel a total hypocrite ... a total hypocrite. If a patient doesn't know I smoke, I can bluff a little because I know the facts about smoking. I can let on I don't smoke, but its difficult, because although I'm not sitting with a cigarette in my mind, mentally that cigarette is there, although the patient cannot see it I know I'm living a lie. I know I'm only bluffing."*

Similarly (Q/N): Winnie pretends that she doesn't smoke but what if the patient finds out that she does?

*"I feel awful ... a total hypocrite ... a total sham. You daren't put much emphasis on it. You want to get it over as quick as possible. You don't want him to ask questions. What if he finds out that you are a smoker? You don't want to hang around. You feel completely two faced pretending you don't smoke ... telling him its bad for him, and knowing all the time that you do it."*

(Q/N): Katie feels guilty about telling lies.

*"That's where you have the conflict. You feel sort of here's me preachin. How can I preach to them, but I would never, never let them know I was a smoker. I would never, never tell them I smoked. I suppose because you feel so guilty, you have a halfhearted approach to health promotion. You feel as though ... em ... you are telling lies."*

(Q/N): Muriel also feels guilty. She tells the patient she doesn't smoke.

*"You can't go into the hazards and all the dangers of smoking when you are actually doing harm to yourself, you feel such a hypocrite. If a patient says "Do*

*you smoke?" I would say "No". I wouldn't tell him, but I feel so guilty. I would never go too deep into it."*

Similarly, (Q/N): Hazel feels terrible telling the patients that she doesn't smoke.

*"It definitely isn't compatible. You feel terrible like, telling patients to stop and they can probably smell it off you anyway ... telling them you don't smoke and knowing that they might find out and never trust you again. You know you're not really a health promoter. You can't get too serious about it."*

(Q/N): Rhoda acknowledges that she would be embarrassed to be known as a nurse who smoked.

*"It's not compatible but I don't go too deep. I wouldn't make the patient or client aware that I was a smoker. I would keep it from them because I would be ashamed of patients' perceptions of me knowing I was a nurse who smoked. I would be embarrassed if I was identified as a smoking nurse. I don't let them link. I keep them separate."*

It is evident from analysis of the data that the nurses who deny that they smoke, experience considerable guilt in relation to their role as a promoter of health, however their relationship with cigarettes is so powerful that they continue to smoke and are not provoked to internalise the effects of their smoking on their professional role.

Likewise, the qualified nurses who fear exposure by patients, and alternatively choose to confess that they are smokers experience guilt and similarly deny their role as promoters of health in this area. This is illuminated by the following quotations.

(Q/N): Megan feels she is not in a position to promote health in relation to smoking.

*"I feel guilty. I honestly can't give health education about smoking ... I smoke. Because I feel guilty I would even say to the patient "Look I smoke, and there's no point in me talking to you about smoking" and I wouldn't. I feel terrible but I can't. I had a man in yesterday with a chest infection and I said "Try and cut down", and then I said "I'm one to be talking to you, I smoke myself" and he laughed, he did ... it was terrible, he laughed at me. I told him because he could probably smell it off me anyway. I can't give much health promotion about smoking. I am not in a position to do it. I feel guilty and yet I still smoke. I'm not in a position to say much."*

(Q/N): Winnie also feels she can't promote health properly.

*"I feel you're leading a double life if you are trying to encourage somebody to stop and you are smoking yourself. You try to tell them, but how can you? You can't do the job properly. How can you? You can't smoke and yet advise somebody not to smoke. When they ask you "Do you smoke?" and you tell them that you do, they just laugh at you and then you know its all wasted, and you feel such a hypocrite.*

(Q/N:) Maureen believes she is wasting her time.

*"There's nothing as bad as having to take a red face. You are in a catch 22 situation. You can't win. Tell them you are a smoker and risk scorn. Tell them you don't smoke and they don't trust you when they find out that you do. I feel guilty, a hypocrite. Here I am telling people not to smoke, and doing it myself. I don't bluff, I tell them I smoke. There's no point in telling lies, they'll find out anyway. I feel totally two faced. I know I'm probably wasting my time anyway."*

(Q/N): Vicky know she is not doing much good.

*"I was trying to say to him, "This is what they do to you and all that", and he said "why don't you stop if you are telling me to stop?". I didn't know what to say. I said "I haven't really got an answer for you". I didn't get too far with him ... the conversation just ended. He kept changing it. I didn't get too far. I felt really guilty, really sick ... a proper hypocrite. You do your bit like, give them a few facts and figures, but when it's thrown back at you, you know you've not done much good."*

It is evident from the data that many qualified nurses in the study who continue to smoke, experience considerable guilt in relation to their smoking behaviour and their role as a promoter of health. However, compared with the nurses who had a 'Damascus Road' type experience and stopped smoking, the power of the relationship with cigarettes is such that they deny their professional role, substituting limited and virtually ineffective health promotion interventions with patients. The findings highlight the fact that "to live a lie" risks being found out as a smoker and perceived as an untruthful nurse, thereby one loses credibility. On the other hand to "tell the truth" and confess to being a smoker risks scorn. To avoid either or both of these situations the majority of nurses choose to turn a blind eye and abdicate their role in so far as promoting smoking cessation with patients. The succeeding extracts are illustrations of this reality.

(Q/N): Brigid avoids talking to a patient about smoking.

*"To tell you the God's truth I would never talk to a patient about smoking. I am not going to be a hypocrite. If I was asked did I smoke I couldn't look the person in the eye. If he asked was there anyway to stop, I couldn't tell him ... I smoke myself. I completely avoid the situation. What would patients think if they knew? You are not going to look good as a nurse. Better to keep quiet and say nothing. Turn a blind eye. Leave it for those who can."*

(Q/N): Joan also feels it is easier to avoid the situation of advising patients to stop smoking.

*"I would be ashamed to say anything, when I smoke myself, and I'm sure they can smell it off me. It's easier to avoid the situation altogether. You can't health promote about smoking when you smoke yourself... leave it for those who can."*

(Q/N): Katie turns a blind eye to patients smoking.

*"I'm not getting into to it myself ... like, so long as the patient doesn't know you smoke you are alright, but once there is a direct question "Do you smoke?" that really builds an uneasy relationship. There's a different attitude from the patient. "Why don't you stop?" ... that's the hardest bit. I think they are not going to trust me as much, so I don't get myself into it. I am not getting myself into it. I just turn a blind eye."*

(Q/N): Erica thinks its best to ignore patients smoking behaviour.

*"I figure it's best to keep it from the patient and not get yourself into a situation unless you have to. I wouldn't get into the depth of health promotion. I don't want to get into it. It's best to ignore it. I cannot see anybody who smokes being effective, so its better to turn a blind eye and forget it."*

Similarly (Q/N): Belle doesn't get involved in health promotion.

*"I suppose I feel to health promote about smoking would be like sitting on glass, so I reckon its best to turn a blind eye and don't get involved in it. I'm not effective anyway. I don't get involved"*

(Q/N): Roberta also turns a blind eye. Health promotion is not for her.

*"I suppose I turn a blind eye ... pretend it doesn't happen. When I see a patient smoke in the loo or whatever I just ignore it. I wouldn't say anything. I'm a smoker and how can I tell him not to smoke when I do it myself. He would think I was a fine one if he found out. It's not for me ... I'm not effective ... I'll save face"*

The fact that the majority of qualified nurses who smoke, admit to carrying out either limited and potentially ineffective health promotion smoking cessation interventions, or alternatively abdicate this aspect of their professional role entirely, is not altogether surprising, considering the strong relationship they have with cigarettes. While they admit to experiencing guilt, the relationship with cigarettes is so powerful that they consistently deny their role as a promoter of health and continue to smoke.

### **The Strength of the Relationship with Cigarettes**

The findings highlight how smoking is tightly woven into the ways in which nurses develop coping strategies for dealing with stress. Analysis of data highlight the personal and professional areas where smoking appears to be tied to stress generated in many of the qualified nurses everyday lives. This stress is coupled with meeting the demands of the profession along with the demands of domestic responsibility.

It further illuminates the powerful emotional relationship they have with cigarettes. This relationship is depicted in terms of love and friendship and corresponds with previous research in relation to women and smoking. Graham (1993) suggests that cigarette smoking is deeply embedded in the past and present lives of many women with domestic and heavy caring responsibilities and despite the knowledge of health-damaging consequences they continue to smoke. Her study focuses on patterns of smoking amongst disadvantaged women. While it is important to clarify that it was not the intention of this current study to measure the social classification of nurses, thematic analysis highlights a number of similarities pertaining to stress which are attributed to a variety of caring responsibilities, at a personal and professional level. Therefore smoking appears to provide this group of qualified nurses with the only pleasure they have when coping with the demands of going out to work, coupled with the responsibility of being the family provider and carer. They consequently develop a powerful relationship with cigarettes



which can be articulated as degrees of love ranging from an amazing love, a tremendous bond, a dependable lifeline, to a comfortable friendship. This love relationship is clearly illustrated in the following extracts.

### The Amazing Love

(Q/N): Martha loves cigarettes. She says they are the only thing she enjoys.

*"I'm totally addicted ... I can't get off. I have smoked from I was 18-20 years old and I feel completely addicted to nicotine. I love my cigarette. There are times I would rather have a cigarette and a cup of tea than my dinner. I have a lot of stress in my life ... there's my sons...and my husband and all that. He's out of work. He's been ill for years. I blame my husband that I smoke and then I blame myself that my sons smoke. We all smoke ... perhaps if I could find another enjoyment but I can't. I enjoy my cigarette and even if my health got worse, I think I would still like my cigarette. It's the only thing that helps me ... the only thing I enjoy."*

(Q/N): Rhoda's love for cigarettes is so strong that she can't ever see herself giving them up.

*"I don't have a real reason to stop. I enjoy smoking so much. I love my cigarette. I just love it ... it's my friend. My father was an awful smoker and he died of bowel cancer and all his life he was terrified that he might have lung cancer but he would never give them up because he loved his cigarettes. When he died, I was terrified that he might have lung cancer as well, because if he had it ... I might ... but he hadn't, which was maybe more to luck than to anything else, but his death didn't push me into giving up. I love my cigarette. I love it. I couldn't ever see myself giving it up."*

(Q/N): Anna also loves cigarettes. They are part of her normal routine.

*"It's part of my normal routine. I love my cigarette. Sit down with a cup of tea and a cigarette and enjoy it ... yes enjoy it. I smoke more at home. Since I was married I have had a lot of stress. My husband does not have a full time job. I've worked, ran the home, educated the children. I can manage the budget, I can manage what I eat, I don't drink, but I can't stop smoking. Cigarettes help me to rationalise ... help me to think. All the time I am looking for a reason to smoke, a reason to enjoy my cigarette. I love my cigarette. I associate a cigarette with relaxation and relief of stress. I can think clearly with a cigarette."*

(Q/N): Vicky associates her love of cigarettes with pleasure she can't get from anywhere else.

*"I am not happy with my life. I am not happy in my job and I have a lot of things going on in my life. Stopping, is definitely not something for the moment. I know my mind is not at all thinking about it. I am quite happy to admit that I smoke 24 hours a day. If I was happier in my work, happier in myself, I might think differently. At the present moment, no way ... I love my cigarette. I associate smoking cigarettes with a pleasurable past time ... pleasure which at the moment I can't get from anywhere else."*

Analysis of the interview data revealed that smoking not only provides an element of pleasure for the qualified nurses in their stressful everyday world but the relationship they have with cigarettes is so powerful that it provides them with a feeling of needed security, as seen in the following disclosures.

#### The Tremendous Bond

(Q/N): Hazel has formed a tremendous bond with cigarettes. Without them she feels insecure.

*"Cigarettes are part of my life. I wouldn't be without a packet of cigarettes. I always feel my pockets to make sure that I have my cigarettes with me. I feel secure when I have them with me. I just feel that they are part of me. They relax me ... help me cope with the pressures of life. It's hard having to work and bring up a family ... run a home. There's no end to it. I get pleasure from my smoking. I wouldn't be without them. They are the only pleasure I have."*

(Q/N): Similarly, Megan considers cigarettes are part of her. She feels insecure when she is without them.

*"I need to smoke ... I need the nicotine. I just always want a cigarette, they help me relax and its not just in stressful situations, like studying part time for my degree ... and the ward is busy and we are short staffed, I find a cigarette helps me to relax in all situations ... at home and at work ... I rely on them. I remember once the tea was ready, and at the same time I realised I had run out of cigarettes. I put my coat on and my husband said "Could you not have your tea first before you go out to the shop?" and I cried ... I did, it was awful, I just cried because I had no cigarettes. I felt so insecure ... I cried so much he said, "Oh if it is that*

*bad you had better go on and get them. Your tea will have to wait. Cigarettes are my life. When I have cigarettes I feel secure."*

Smoking not only provides pleasure for a number of nurses and a sense of security for others but analysis of the data reveals that it acts as a lifeline for those who feel burdened beyond compare. The following heartfelt expressions convey this message.

### The Dependable Lifeline

(Q/N): Joan smokes heavily. She feels that cigarettes are the only thing that keep her sane.

*"It's a crutch to help me cope with the pressure of life. I have a lot of responsibility at home. I have a three year old child and my husband is unemployed. Cigarettes definitely help me to relax. They do a lot for me. I smoke a lot when I am at home. Last week when I was at home I smoked 40 a day. It was the only thing that kept me sane. It's not that my wee lad is bad but he never stops and you are trying to cope with him and the home, and with your work and with studying. There's so much and my husband he doesn't understand why I have to study. He doesn't understand that I have to do it to hold on to my job nowadays. He finds the wee lad hard work too, and tends to leave him to me when I am at home, and there I am trying to make the tea and the child crying round my legs ... trying to study and him crying for me. I just couldn't cope without my cigarette ... I really couldn't. They are my lifeline."*

(Q/N): Likewise, Muriel claims she wouldn't know where to turn without cigarettes.

*"It is really stress keeps me smoking. I am stressed out. In the area where I work I am run off my feet. Like the first thing you think of is sitting down and having a cigarette and as well as that I have a lot of problems in my life. My mother is ill and I don't know where to turn. I'm running backwards and forwards between her house and mine and trying to keep my children and husband happy at the same time. You know one day recently I was so bad. I had run out of cigarettes and I went over to the shopping centre and I bought a cup of coffee and a packet of ten cigarettes and I sat down and I smoked six, one after the other. I never stopped until I had the sixth finished. I just sat there smoking. Then I came out and I felt wonderful. My stress levels were normal again. Cigarettes are the only thing that are keeping me sane at the minute."*

(Q/N): Belle feels greatly under pressure. Cigarettes are very important in helping her to cope with the everyday stress in her life.

*"I'd go mental without my cigarettes, they are the only thing that keep me sane. Look at the place ... the pressure of work and then, there's the studying at night and you are so exhausted and there are deadlines to meet and, your mother is going on and on about taking her out. We are only human you know."*

Data analysis identify that while a majority of qualified nurses consider smoking cigarettes as their only pleasurable activity in a profoundly stressful environment, others go further and present cigarettes as their lifeline. In addition, a number of nurses feel lonely in their stressful everyday world and indicate that cigarettes are their only friend. This is illustrated in the following excerpts.

### The Comfortable Friend

(Q/N): Margaret often feels alone. Cigarettes are her comfort and her friend.

*"I couldn't stop. I just couldn't stop. There's a lot of stress in my life and that's why it's not just as easy as saying "right I'm not going to smoke anymore". There's a side of me that says I can't deal with all these things. All this stress in my life. I need something to fall back on. I'm afraid to step over the edge. I can't say "that's it". I need my cigarette. I love my cigarette. I have to have it. I have to go to work. We are building a new house and there's the three children. I do night shift and sometimes I come home in the morning and I'm breaking my heart. Maybe a child has died in the ward and I have had to spend time with the parents, and then I have to come home to my own children and have to get them ready for school and I'm all stressed out. No one at work ever asks you why you are breaking your bloomin heart and you can't tell your kids and your husband is rushing out to work. You are just expected to go on ... to cope, and your heart is torn out of you. You can't wait to have a cup of tea, and have a cigarette and bawl your eyes out. Your cigarette is your only friend."*

(Q/N): Roberta also feels alone in her work situation. Cigarettes are her best friend.

*"I smoke because of the stress in my job and frustration at work, at not getting to do all the things in the job that I want to do inside the time and its an isolated road with no relief. Once you go out into the general community you are completely on your own. There are so many things that I want to do and I feel pulled. There are so many things that I want to do in the ward and yet I know of patients outside and I can't be in two places at the one time. I purposely smoke when I get hyped up, you know on a busy day. My one aim would be to get finished, to get sitting down, have a cup of tea and a cigarette. I suppose you could count it sort of a bonus for getting through the work on your own. That's the way I would put it anyway. Whereas some people would probably go for*

*chocolates and something else, I go for the cigarette. I sit down and I say to myself well done and have a smoke. You are always rationalising why you smoke. You are on your own at work ... you are alone ... no one cares ... you are stressed out ... your husband's ill ... you are exhausted. A cigarette makes you feel better ... helps you cope. It's your best friend. It keeps you going."*

Clearly in their stressful everyday life, cigarettes are all to this group of qualified nurses.

### The Relationship between Smoking and Stress

While there is a considerable volume of literature looking at the smoking behaviour of nurses, (Tagliacozzo et al 1982; Elkind 1988; Adriaanse et al 1991) the studies have concentrated on the extent of nurses smoking, and have suggested that the nursing environment contributes to the reason why so many nurses continue to smoke. Research on the smoking behaviour of qualified nurses has pointed to the role of smoking in stress-management especially in particular clinical areas (Hawkins 1982; Dore et al 1988; Haughey 1989) and the sense of powerlessness within the sexual division of labour (Porter 1992). As a result, while existing research provides considerable information on the prevalence of nurses smoking, and on the characteristics of those who smoke, within a nursing context, little is known about the 'everyday world' of nurses who smoke. Examining nurses smoking behaviour in the light of past research alone, gives only a partial picture of why nurses continue to smoke. Studies have not been extended to include other caring and domestic responsibilities which are part and parcel of many nurses lives.

Evidence suggests that cigarette smoking is increasingly becoming a habit associated with working-class women, particular those with dependent children and additional caring responsibilities. (Graham 1987; 1992; 1994). Surveys of family life (Graham 1984, 1986, 1989) have demonstrated that for women "living with", invariably means "caring for" the household as a whole. Changes in society with increased unemployment among young and middle aged men, have seen more women taking on the role as 'bread winner' as well as caring for children and carrying out domestic responsibilities. These areas have not been explored in the nursing smoking literature.

The findings of the current study reveal that almost all qualified nurses who smoke do so as a means of coping with stress which arises from circumstances surrounding their everyday lives. This finding supports previous studies which have explored the smoking behaviour of women in general (Graham 1987; 1993; 1996). The majority of qualified nurses in the study were female, married and had families. The findings illustrate the difficulty this group of nurses experience in caring for a family, running a home and trying to balance these commitments with a job. Smoking appears to provide them with the following rewards (a) Pleasure and space for relaxing thus they develop an amazing love for cigarettes; (b) A feeling of security during their heavy responsibilities, hence they formulate a strong bond with cigarettes; (c) A dependable lifeline when stress seems unbearable; and (d) A friend when there is nothing or no one else to turn to, thus they rely heavily on the comfortable friendship of cigarettes. They therefore develop a tremendous relationship with cigarettes which manifests itself in varying degrees of love. The power of this relationship with cigarettes appears to override all other factors in relation to internalising the effects of cigarette smoking on their health and on their role as a health promoter.

The data demonstrate that nurses' smoking behaviour must be explored within the context of nurses everyday lived experiences and not within the context of the nursing environment alone. The in-depth interviews with qualified nurses has afforded the researcher the opportunity to explore the reason why so many nurses continue to smoke. Nurses who continue to smoke are not immune to feelings of guilt in relation to the effects of smoking on their health and their role as a health promoter. However they differ from those who stopped smoking in that the power of the relationship with cigarettes is so great that they consciously and consistently deny the detrimental effects of their smoking. This area is discussed further in Chapter Seven.

The experiences of the mature, married qualified nurses who continue to smoke differ greatly to the experiences of two qualified male nurses and three qualified female nurses who were recently qualified and did not stop smoking. Their attempts to stop smoking resembled that of the student nurses who continue to smoke.

The next section presents findings which appear to act as potential barriers to student nurses stopping smoking. Female and male student nurses exhibited similar experiences. The themes which emerged from the data were identified as:

The powerful relationship with peers

The 'colluding environment'

The uncertain role as promoters of health

## **THE STUDENT NURSES WHO CONTINUED TO SMOKE: THEIR LIVED EXPERIENCES**

The first part of this section addresses the findings derived from the taped recorded interviews with student nurses who continue to smoke. These findings demonstrate the overriding influence of peers in continuing to smoke. The relationship is so powerful that friendship patterns and valuing peers' views are more important than personal knowledge in relation to stopping. The second part presents findings which illuminate the colluding environment which appears to reinforce student nurses smoking behaviour. Potential reasons why student nurses are not challenged to consider their smoking behaviour especially in a health oriented establishment are described. These findings pertain to the lived experiences of student nurses within the environment of a College of Nursing and reflect the limited input of the college in relation to encouraging nurses to stop smoking and in preparing them for a role as promoters of health with regard to smoking cessation.

All sections present findings derived from data analysis of audio recorded interviews with student nurses in both the intervention group and the reference group.

### **The Powerful Relationship with Peers**

Data analysis revealed that the influence of smoking friends is clearly a major barrier to stopping smoking among student nurses who continue to smoke. Once a nurse declares herself to be a smoker, she/he becomes an integral part of a smoking group and there is an

obligation to conform to the friendship pattern of that group. Consequently the power of the relationship is so strong that efforts to stop smoking are seen as contrary to the views of other members within the group. In turn this can put considerable pressure on students who have given up, to recommence smoking as illustrated below.

(Std.n): Blanche's friend was always tempting her with cigarettes. She couldn't bear it and gave in.

*"There wasn't much support from my smoking friends when I tried to cut down. They kept offering me cigarettes. They had a bet on me you know to see how long I would last. One individual in particular couldn't wait to get me back on them. She was always tempting me. She would say, "Sure you might as well have one now ... you'll not last long". She was always tempting me, and eventually she succeeded. I had to give in, I couldn't bear it any longer."*

(Std.n): Elsie was taunted by her smoking friends and started smoking again.

*"I was taunted by my smoking friends when I tried to stop. I couldn't stick it and then when I started smoking again, "Ah! Hah! you are smoking again. We knew you wouldn't stick it". It was as if they were pleased I hadn't succeeded. You definitely don't get support from smoking friends. It's terrible, they just want you to smoke."*

Similarly, (Std.n): Liz found it easier to smoke.

*"It's very hard to give up. If you decide that you'll try and cut down and you don't go into the smoking room, they say, "Huh! have you given up, because I don't see you in the smoking room. Are we not good enough for you anymore?" Like, it's like taunting and it's very hard to put up with it. It's far easier to smoke"*

(Std.n): Cherith's friends kept on at her until she took one.

*"My smoking friends don't take trying to stop seriously. When I was trying to cut down, they would say to me "Och! go on, take one, take one, it won't do you any harm ... go on". They don't take you seriously at all. They kept on and on until I gave in and took one."*

An abundance of studies (Carmichael and Cockcroft 1990; Blakey 1991; Harrison et al 1991), have endeavoured to determine why so many student nurses continue to smoke, especially in view of the fact that contrary to other young adolescents, nurses more often



see the consequences of smoking in their everyday work. The factor most commonly cited in literature as being the reason why adolescents commence and sustain their smoking behaviour is that of peer pressure.

Oetting and Beauvais (1986) claim that peer clusters shape attitudes and beliefs about drugs. They propose that adolescents seek out similar peers and influence them. A number of studies have determined that peer pressure is a significant factor in adolescent smoking (Biglan et al 1983; Van Reek et al 1987; Dielman et al 1987), and that friendship cliques have a strong influence on commencing and maintaining the smoking habit. Fergusson et al (1995) discussed continuities and peer affiliations, demonstrating that young people who show an early predisposition to substance use behaviours, also show clear tendencies to affiliate with like-minded peers. In turn, peer affiliations during adolescence act to reinforce early smoking behaviours and encourage regular smoking. Brown et al (1986) found that the importance of group affiliation was related to the willingness to conform to peer pressure and to remain an important member of that friendship network.

The current research identified the conflict involved in stopping smoking as a result of the power of the relationship with smoking friends. The conflict is linked to the difficulty of withdrawing from and not complying to the usual friendship pattern of the smoking group. Valuing peers' views more than personal knowledge is extremely important and often results in students surrendering their attempts to stop smoking. This strong relationship is reinforced by student nurses' exposure to a 'colluding environment'.

### **The 'Colluding Environment'**

Analysis of data derived from the audio recorded interviews, pinpointed three important factors which have the potential to reinforce student nurses smoking behaviour and act as a barrier to stopping smoking. These factors are linked to the perceived messages students receive within the College of Nursing and are related to (i) the influence of the smoking room (ii) the lack of challenge to smoking behaviour and (iii) the lack of emphasis on the health promotion role. This includes the potential influence of tutors that smoke.

### The Smoking Room as a Trysting Place

The smoking room in the College of Nursing was considered by the student nurses as something equating to a trysting place where they could meet and strengthen their friendship ties with their smoking friends. The smoking room was clearly identified as a potential reinforcing influence on their smoking behaviour. Students frequently made reference to its easy accessibility. The following responses reflect the perceptions of student nurses who continue to smoke and include those in both the intervention and reference groups.

(Std.n): Alexis thinks the smoking room is so handy.

*"Here in the college, the designated smoking room is very handy, we can pop round the corner. It hasn't made much of a difference to our smoking ... It's great. (laugh)"*

(Std.n): Darlene likes the fact that in the college she can smoke with her friends.

*"The pleasure is taken out of it when you are in the clinical area, because you are on your own and you sit with a lot of people in the smoking room who are on their own, because their colleagues are outside, but in the college it isn't like that ... it's great. You are all together again and there's always a group of your crowd heading to the smoking room."*

(Std.n): Ivy automatically smokes when she is in the college.

*"It's different here in the college, it's automatic, straight out of class, round to the smokers room. It's routine ... you get a break and you just go round the corner into the smokers room without even thinking about it. When I'm on the wards, I wouldn't smoke at all. The room here in the college is too accessible."*

(Std.n): Beryl agrees the smoking room in the college is very accessible.

*"You feel ashamed going into the smoking room in the clinical area, but I think in the college it's different because the smokers come in with their smoking friends and the room is so handy. It's just up the stairs ... it's so handy. I definitely don't think that the room in the college does anything for those trying to stop. It's too accessible."*

(Std.n): Alice believes that if there wasn't a smoking room in the college, she wouldn't smoke.

*"Maybe if the room in the college wasn't there, it would be a good thing. Like you're here from 9 to 4 and the fact that the room is here you get a smoke at breaktime or whatever. If it wasn't here, you would have to go on. When you are on the wards you go on and you don't think about it. I think it would be better if it wasn't here. You'd have more of an incentive to give up if it wasn't here because you'd know you could go 6 hours without one, as it is, it is here so you smoke."*

Similarly, (Std.n): Natasha thinks the smoking room in the college encourages students to smoke.

*"I do think here in the college, the smoking room should be taken away totally. Even though I smoke, I think you would need to close off the smoking room altogether ... have a totally smoke free area. It's only encouraging us to smoke. There shouldn't be a room here. If there wasn't a room students might cut down the number they smoke, because a lot of them wouldn't be bothered to walk over to their room (in the nurses' home). It would deter them."*

(Std.n): Abigail also feels that the smoking room in the college is too accessible.

*"The smoking room shouldn't be in the college. It definitely should not, because you can smell the girls coming out of that room. It's too accessible. I think if they got rid of it, it would definitely help because students would soon get tired running backwards and forwards to the blocks for a smoke".*

Analysis of data clearly identified that the smoking room in the College of Nursing colludes to reinforce the smoking behaviour of student nurses who smoke. Easy accessibility encourages students to affirm their friendship patterns and their smoking habit. In addition students smoking behaviour appears to go unchallenged in the college, potentially providing an unwritten licence to smoke, as demonstrated in the following excerpts.

## The College Providing a Licence to Smoke

(Std.n): Ada finds that she can smoke freely in the college.

*"It hasn't made a difference to my smoking ... (laugh). There's nobody in here in the college torturing you ... they just let you get on with it ... (laugh). I still smoke as many, but I would be more wary of where I would smoke outside the college. In here it's not a problem".*

(Std.n): Beth feels smoking is an acceptable part of college life.

*"I think when you get the uniform on you feel more of a nurse and you take on that role. You might be a bit more conscious of smoking in uniform and be a bit more professional, but when you are here in the college, smoking seems part of the college, and it's come on and let's go to the smokers room, so in that way it might actually encourage more smoking, certainly more than when you are in the clinical area ... nobody's making you feel bad. It's just accepted as the thing to do. It's strange but you are never challenged."*

(Std.n): Carin thinks it is easier to smoke in the college than in the clinical area.

*"You are very conscious about it when you are in the clinical area because you want to be thought of as a health promoter and not a smoker, but it doesn't matter here, nobody cares whether you smoke or not. It's easier to smoke in the college because you don't think about it. It's like a conveyor belt with students coming through. The smoking room isn't big enough (laugh). There's always a lot of people in it."*

(Std.n): Adele likes the fact that it is the done thing to smoke in the college.

*"It's better here in the college because you are with your friends and it's the done thing to smoke here. It's off round the corner to the smoking room for a chat and a smoke. We are all together. I smoke far more here. Nobody bothers you ... it's good."*

(Std.n): Rosanna says smoking is part of the college.

*"I don't remember smoking mentioned when we first came in. I just remember the smoking room being started. I was surprised it wasn't mentioned. You see when you first come and get the uniform on you feel more of a nurse and you want to take on that role. You would be a bit more conscious of smoking when you are in uniform because you don't want to be seen as not being a healthy nurse, but*

*whenever you come into the college it's never mentioned and you are no longer the nurse but the student and smoking is part of the student and part of the college and so it's come on, let's go to the smoke room".*

(Std.n): Ingrid says that it isn't discussed in the college why students should change their behaviours.

*"I think when a student enters college initially to be a nurse, health should be the focus and their role in health should be discussed, but it isn't. It isn't discussed why we should change our behaviours, and then there is the smoking room ... that just encourages smoking. It shouldn't be there at all. I was surprised when I started here and smoking was allowed in the college. It is not a good idea. As long as there is a room to smoke in, nurses will smoke. It should be banned. It does nothing to enhance health or encourage us in our role."*

(Std.n): Rita believes that the reason why so many students smoke is because they are not challenged.

*"As soon as a Module starts from day one, tutors should talk to us about smoking because with new students coming in, the ball would be in your court and you could emphasise the health promotion role from the beginning when you get us in the raw, but it's not a topic for discussion ... that's why so many smoke ... smoking is not discussed. We are not challenged about our smoking".*

The data suggest that student nurses are not challenged about their smoking behaviour when they are in the College of Nursing. This factor together with the potential provision of a 'trysting place' gives them unwritten licence to carry on with their smoking habit without feeling criticised. Data analysis further identified that linked to a lack of challenge pertaining to their smoking behaviour, students have little insight into their role as promoters of health particularly in relation to smoking cessation and therefore have no further incentive to stop smoking. This is clearly demonstrated in the ensuing extracts.

### **The Uncertain Role as Promoters of Health**

(Std.n): Sally says that students need to know what health promotion really is.

*"Nobody challenges us and reminds us about our health promotion role. Nobody is telling us why as nurses we should stop smoking. We need to discuss all these things in class. If it was talked about, you would definitely consider your role and stopping. You would know what health promotion really is."*

(Std.n): Maxine agrees that students need to be taught what it means to be a promoter of health.

*"More should be done at the beginning of our training, when we come into college ... right in Module one. There's so much time then. We should be taught about how smoking effects our health ... really effects our health, and what it really means to be a health promoter. What we will have to do when we go out. We are in for so long. We should be made aware before we smoke more and more, because we increase and increase and it becomes more difficult."*

(Std.n): Jo believes that the health promotion role is not emphasised enough when students first come into nursing.

*"When you first come in, the health promotion role should be emphasised because you are thinking healthy when you first come in. I think the healthy role as a health promoter would have made me think, if it had been emphasised more. I think if it had been emphasised more at the beginning. The whole area of the healthy nurse to take on the healthy role should have been emphasised. I think if it had been, I would have tried to have stopped but it wasn't so I didn't."*

(Std.n): Heather agrees that students are not made aware early enough of their professional role.

*"I think too, that when we first come into the college we could talk more about our health promotion role, like you and I are doing now and let us have a discussion, debate and talk it through ... that makes a student think. Instead we definitely aren't made aware of our role early enough. What does health promotion mean? What does it involve for the nurse who smokes? How does the patient feel knowing the nurse smokes? A lot more could be done to make our health promotion role alive, and to make us think ... make us understand what is expected of us ... make us think about stopping."*

Similarly, (Std.n): Corrina believes that students need to be challenged about their role.

*"Why are we not challenged. Why does nobody tells us when we first come in? We need to know what health promotion is all about. We need to know why we are bad examples if we smoke."*

(Std.n): Leonora feels that more could be done to explain the role of a health promoter.

*“Look, it needs to be more of a topic for discussion when we first come in. Talk through that smoking shouldn’t really be among the profession and we have to live a healthy lifestyle now, so that we are actually following up what we are saying, and explain how difficult it is to health promote when you smoke, instead of just leaving us to it.”*

(Std.n): Libby points out that as a student you don’t really know what health promotion means.

*“Something should be done at the beginning of training right away as soon as we come in, rather than later. Like, in Module one you don’t really understand what health promotion means and why you have to be a health promoter. What does that mean, and in Module two you don’t really see the effects of smoking ... everyone is well in Maternity. You don’t really know what it means. You need to talk about ... discuss it”.*

Likewise (Std.n): Wanda is unsure of what a health promoter means.

*“I don’t think enough is done when we first come into college. We are told we must be health promoters, but what does that mean? What does it mean? We need to know and what about us, we need to be told about the health implications. We need to have time set apart to talk about the problems to discuss and talk it through like you and I are doing now ... that makes you think why am I doing this.”*

The interview data with students suggest that health promotion in relation to smoking cessation is not fully addressed when students first commence their nursing career. As a result they are not confronted with their role as promoters of health, nor the potential impact of their smoking behaviour. The deficit in preparing them for this role may provide a potential buffer to stopping smoking.

In addition data clearly demonstrate that student nurses reflect on the smoking behaviour of nurse tutors.

(Std.n): Rob points out the contradiction of nurse teachers sharing a smoking room with students.

*"Personally, I think there's something silly about being a nurse teacher and supposedly a health promoter and at the same time smoking in the college of nursing. Your professional credibility is dependent upon what people think of you and always will. If they don't have trust or sort of confidence in you as a professional you can't function as a professional. I suppose the same thing goes for in here too ... a college of nursing and we are provided a smoking room shared with tutors who are teaching us ... kinda contradictory isn't it?"*

(Std.n): Leah believes that it is contradictory for tutors to discuss smoking when they do it themselves.

*"But how then can you discuss it ... sure if you have tutors who smoke with us in the smoking room, it's like telling the patients not to smoke and doing it yourself? How can you tell the student, when the tutors smoke? It's just a catch 22 situation, isn't it ... it's ridiculous!"*

Similarly, (Std.n): Natalie points out the contradiction of tutors smoking.

*"Personally I think it's rather stupid calling themselves health promoters and tutors smoking away in the college of nursing where all this education is supposed to stem from."*

(Std.n): Holly has also difficulty in understanding the importance of health promotion when nurse tutors smoke.

*"It's difficult to understand really. Like, if it is important to be a health promoter why do tutors smoke in the smoking room with us? There doesn't seem to be any big push to stop smoking."*

(Std.n): Karena never expected she would share a smoking room with tutors who were teaching her.

*"It's strange that in here it doesn't really matter about our smoking. I thought when I came to nursing I wouldn't be allowed to smoke. I never thought I'd be smoking in a room and the tutors who were teaching us would be smoking with us. I thought it wouldn't be allowed. It is not what I expected."*



There is clearly a strong relationship between the uncertainty that student nurses face about their role as promoters of health and the limited and contradictory input of the College of Nursing, in preparing them for this role. This, together with the example shown by a number of nurse tutors who themselves smoke, creates a colluding environment which in turn acts as a buffer to student nurses stopping smoking.

### **Summary**

The findings presented in this third section illustrate that the overriding influence which prevents students stopping smoking is the power of the relationship with their smoking peers. For many it is essential to remain a member of these friendship groups. As a result student nurses tend to value peers' views and continue to smoke. Analysis of interview data has illustrated that student nurses' experiences of peer relationships and friendship groups are similar to those identified by young people in general studies (Roosmalen and McDaniel 1992; Fergusson et al 1995). This is discussed in detail in Chapter Seven. Findings further illustrated that while the overriding influence preventing student nurses from stopping smoking is clearly the power of the relationship with their smoking peers, this in turn is reinforced by student nurses exposure to a colluding environment. The provision of a 'trysting place' particularly in the College of Nursing facilitates the nurturing of smoking groups and friendship patterns, and this in combination with unchallenged smoking behaviour gives students unwritten licence to smoke. In addition, data analysis demonstrates that student nurses are uncertain about their role as promoters of health and confused by the example of smoking nurse tutors. Together these factors appear to collude and act as a barrier to student nurses stopping smoking.

The data in this chapter have provided important insights into the reasons why some nurses gave up smoking while others continue to smoke. The key issues emerging from the findings are discussed in depth in Chapter Seven.

## **CHAPTER SEVEN**

### **DISCUSSION**

#### **NURSES AND SMOKING**

##### **THE ULTIMATE HEALTH PROMOTION CHALLENGE**

###### **Introduction**

This study indicates a high incidence of smoking amongst qualified nurses and student nurses in Northern Ireland and demonstrates the potential value of offering support in smoking cessation programmes. At the same time it clearly illustrates that giving up is not easy. The nurses who participated in this research provided vivid accounts of the importance of their relationship with cigarettes. The reasons given by nurses for continuing to smoke and the contextual and cultural influences on their behaviour are examined in this chapter. Successfully quitting was associated with a powerful trigger which can be likened to a 'Damascus Road' experience. The limitations of previous smoking cessation intervention research is highlighted and issues surrounding outcome measures and the stages of preparedness to change behaviour are discussed.

This research has provided some valuable insights into the issue of nurses who smoke. Perhaps the most striking of these is the extent to which the experiences, perceptions and behaviours of nurses who smoke mirror those of women in general and likewise the perceptions and behaviours of students who smoke, mirror that of young female adolescents in general. Whilst at one level this is not surprising it constitutes a paradox which has important implications, explored in this chapter, for a large group of health care workers with a professional commitment to promote health.

As indicated in the findings presented in Chapter Five, only 8 out of the sample of 110 qualified nurses and student nurses were male. Whilst acknowledging the importance of addressing smoking amongst male qualified nurses and student nurses, the focus of the discussion chapter is clearly located in the context of females who smoke.

## **Smoking and Nursing: The Scale of the Epidemic**

### **Qualified Nurses**

Twenty one per cent of the qualified nurses in one Northern Ireland Hospital Trust who were surveyed in the study identified themselves as regular smokers. When these findings are compared with general smoking studies which examined the smoking behaviour of women in Northern Ireland in socio-economic group II (22%), (Central Survey Unit 1994/95) it can be seen that qualified nurses' smoking rates equate more or less with that of the female smoking population.

As identified in Chapter One, since the claim that 48% of nurses smoked (OPCS 1977), studies in the main support the premise that there has been a decrease in qualified nurses' smoking behaviour. Tagliacozzo et al (1982) report that 19.9% of registered nurses were smoking. Similarly Becker (1986) and Dore and Hoey (1988) report a downward trend of 22% and 22.9% respectively. It has however been identified, that previous studies are both somewhat outdated and methodologically compromised. While the findings of this current study further support a downward trend in the smoking behaviour of qualified nurses, the studies which are perhaps most useful and where comparisons can be most appropriately made, are those pertaining to the general population of smokers, particularly those which relate to women. Thus it is proposed that in all future studies, qualified nurses' smoking behaviour should be examined alongside those relevant to women who smoke in similar socioeconomic groups.

While it is recognised that further research is required to establish the extent of smoking amongst qualified nurses in Northern Ireland, the implications of these findings for practice, are most important. First, the study identified a group of people who make up the largest group of health professionals and have a responsibility to influence the smoking behaviour of other individuals yet, they smoked to the same extent as women in the general smoking population. This, is disturbing and poses another question as to the extent of smoking amongst other health professionals and in particular females. There is a widely held belief that nurses smoke more than other health professionals and that those in the dental, medical and other health related professions, do not smoke in great numbers

(Christen 1984; Garfinkel and Stellman 1985; Glynn 1988; Magnus 1989). This concept needs to be challenged with empirical data.

Secondly, the fact that so many qualified nurses smoke, should be a major concern for the nursing profession, especially in relation to the potential effects of nurses' smoking behaviour on their health promotion role. While there is no shortage of rhetoric extolling the need for health professionals to develop their role in this area, the majority of the nurses interviewed who smoked, admitted that they felt that they were not in a position to help patients to change their smoking behaviour. From the nurses' accounts of people's reactions to their smoking, it can be postulated that lay people and particularly patients and their relatives perceive nurses to be role models for health. Smoking nurses and the contradictory health messages that they portray do not fit easily within this belief. This study has clearly demonstrated the incongruence of nurses' smoking behaviour and their professional role.

While the findings suggest a downward trend in qualified nurses smoking, they continue to smoke more or less to the same extent as females in the general smoking population, and this is disturbing. Moreover, student nurses' smoking rates were much higher than female adolescents in general and this is also a matter for great concern.

### Student Nurses

The study identified that 46% of student nurses in one College of Nursing were regular smokers. When these results are compared with those of young females aged 16-20 years in general, who smoke (27%) in Northern Ireland (Central Survey Unit 1994/95), the incidence of student nurses smoking is considerably higher. While no claims are made for this to reflect the incidence in the wider nursing student population, these findings do raise an important question about the current extent of smoking amongst student nurses and indeed other groups of students.

Comparing the incidence of smoking amongst student nurses in this study (46%) is problematic. The findings demonstrate little evidence of a decrease in the extent of student nurses who smoke, thus they contrast with those of Blakey and Seaton (1992) and

with West and Hargreaves (1995) who report a downward trend of (33%) and 34% respectively when compared with young females in the general smoking population. As previously discussed however, the findings in these studies are also seriously compromised. The current study supports more closely the findings of Carmichael and Cockcroft (1990). They report an increase in the extent of smoking amongst nursing students (43%) when compared with young females aged 20-24 years (38%), in the general smoking population (OPCS 1986).

There has been little concerted effort to establish an accurate picture of the smoking behaviour of student nurses in Northern Ireland and further work is needed in this area. Indeed, further studies are needed which examine the smoking behaviour of students in other health related professions. A recent worldwide study examining the smoking behaviour of medical students in 42 countries, suggests that nearly one in five male medical students in Europe smoke and in Japan as many as one in three smoke (Crofton et al 1994). It would seem that medical students smoking behaviour may indeed be no different to that of nursing students. What is most important, is that while medical students and in this instance student nurses, are young people who smoke they are also health professionals who smoke and for this reason their smoking behaviour cannot be isolated from their professional role.

An interesting finding relates to the fact that almost all of the student nurses in the sample, (97% in the intervention group and 94% in the reference group) were smoking prior to coming into nursing. This finding is at variance with previous research (Leathar 1980; Elkind 1988; Carmichael and Cockcroft 1990) which suggest that smoking amongst nurses is to do with the stressful nursing environment. Since nearly all of the student nurses were smoking prior to entering nursing, it is clear that there should be a concerted effort to target young people in general to stop smoking and particularly young women. Measuring carbon monoxide levels may be a useful method of raising the awareness of the detrimental effects of smoking among young adolescents in the general smoking population.

In summary, the fact that so many qualified nurses and nursing students in this study smoked, is disturbing. The findings indicate that health policy action should move closer

to nurses themselves and that the bottom-up approach which has been aimed at increasing awareness among the public, should shift to strengthening the nurse's health promotion role through empowering and supporting them to change their own unhealthy behaviour. One way of achieving this is to introduce specially designed smoking cessation interventions to help qualified nurses and student nurses to confront the tensions between their smoking behaviour and their health promotion role. This study has demonstrated the potential value of such an approach.

### **Influencing Smoking Behaviour - Interventions Revisited**

The study raises important questions about the process of influencing smoking behaviour and previous cessation interventions. It highlights also, the importance of measuring motivation and readiness to stop. Moreover, it raises important questions surrounding issues of validity, particularly in relation to the frequently reported one year post intervention cessation rates.

### **The Importance of Appropriate Smoking Cessation Interventions**

This section revisits some of the previous smoking cessation research. It would seem that in the main interventions have not been appropriate for the majority of smokers.

The individualised smoking cessation intervention had a significant impact on the smoking behaviour of a group of nurses (25%) when compared with nurses in the reference group (8%). This indicates that nurses like anyone else, respond to being supported in the process of giving up smoking. While the small scale of the research is acknowledged, the intervention employed in this study seemed to provide the help needed to stop smoking.

Intervention studies with nurses are scarce and this makes it difficult to make comparisons with similar studies. As previously identified in Chapter Two, one of the main problems associated with worksite smoking cessation programmes has been recruitment and retainment. Indeed Brown et al (1987) failed to recruit any nurses to their study and Gritz et al (1988) report a lower than expected accrual response rate among

nurses, suggesting that the majority of worksite programmes are unfitted for the targeted population. In discussing the problems associated with recruitment and retainment, Prochaska and Velicer (1997) also support the premise that smoking cessation programmes in the main, are inappropriate for most smokers. For example, when considering the Minnesota Heart Health studies which randomly assigned smokers to one of three recruitment methods for home-based programmes, it is reported that only 1-5% participation rates were achieved (Schmid et al 1989). Similarly, Orleans et al (1988) report that the majority of smoking cessation clinics recruit only 1% of smokers. The fact that 26% of all student nurses who smoked in the College of Nursing and 19% of all qualified nurses who smoked in the Hospital Trust, enrolled in the current intervention study suggests that an individualised approach to smoking cessation is indeed a more effective way of recruiting individuals into a smoking cessation programme.

The findings indicate that a considerable number of nurses are interested in changing their smoking behaviour. What is particularly important, is that the support offered is perceived as appropriate for them. A number of authors have discussed the need to incorporate identification of coping strategies and support mechanisms into the cessation programme, in order to enable individuals maintain smoking cessation (Richmond 1994; Prochaska et al 1997). Utilising this approach Macleod Clark (1987) and Macleod Clark and Rowe (1993) achieved smoking rates of 17% and 75% respectively, when objectively verified at one year. The fact that 25% of nurses in the intervention group in this current study were abstaining from smoking at one year demonstrates very favourable results and supports the premise that identification of individual coping strategies and support mechanisms is indeed a major factor in helping people attain the goal of smoking cessation. When these results are compared with a minimal intervention programme as proposed by Fowler (1982), they are considerably higher. Employing Fowler's approach, Sanders et al (1993) report a 13% smoking cessation rate at one year. However as previously discussed, in view of a number of methodological issues, reliability and validity are compromised. Thus it is proposed that all smoking cessation programmes should move from being formalised and prescriptive to being individualised and empowering.

It may be tentatively concluded from the relatively large success rate, albeit from a small sample, that the individualised approach to smoking cessation as employed in this current

study, is a successful method of assisting nurses to stop smoking. It would seem that confrontation with their personal beliefs about the effects of smoking on their health and the tensions with their health promotion role is a major step towards internalisation and quitting. This indeed may be the key to effective smoking cessation programmes with nurses. The limitations of the study however, must be acknowledged. This was a small scale piece of research and therefore generalisations cannot be made beyond this group of nurses. In view of the potential weakness inherent in this study stemming from self-selection and volunteers to groups, it is suggested that further research utilising this intervention approach to smoking cessation is necessary. It is recognised that while certain aspects of the intervention had the potential to raise the awareness of the detrimental effects of smoking on their health and in particular their professional role, an even higher success rate may have been obtained if motivation and stage of change had been more accurately identified.

#### The Impact of Motivation and Readiness to Change

Baseline data revealed that both groups (intervention and reference) had similar biographical and professional profiles. There was however a significant difference in the motivation and determination of qualified nurses and student nurses in the intervention and reference groups to give up smoking, with those in the intervention groups displaying higher levels of motivation and determination. Thus it is suggested that measuring motivation levels and identifying where the person is at, in the cycle of change is of utmost priority, when planning smoking cessation interventions.

The transtheoretical model of behavioural change (DiClemente and Prochaska 1982), proved extremely useful as a way of interpreting the cessation processes identified in this study. A key construct of the model are the stages of change (precontemplation, contemplation, preparation, action and maintenance) through which a smoker passes on the way to successful smoking cessation. From this, it can be identified that smokers are not in a homogenous state in relation to either their readiness or their ability to stop smoking and therefore, should not be treated as if they are. The model provided important insights into the intentions and ability of individuals to change their smoking



behaviour and is a useful framework on which to base smoking cessation interventions with nurses.

As previously indicated, it would seem that the key to successful smoking cessation is to measure the motivation levels of individuals to stop smoking and then to tailor interventions to match their stage of readiness to quit. When viewed in this context, a question is posed in relation to the appropriateness of the interventions employed in many randomised controlled smoking cessation studies. As identified in Chapter Two, randomised controlled trials have in the main employed a generic approach to smoking cessation and little if any consideration has been given to measuring motivation levels or attempting to match programmes to an individual's stage of readiness to quit. The focus has clearly been on securing smoking cessation rates (Jamrozik et al 1984; Sanders et al 1993). This current study has demonstrated that a radical shift is required from the tendency to concentrate solely on smoking cessation outcomes, to facilitating a change in the direction of smoking cessation by using motivation and readiness to change, as indicators for the intervention.

In order to assess readiness to give up smoking, there is obviously a need for some type of valid and reliable motivation scale. A simple Likert scale was employed in this study to provide a method of assessing the degree of motivation, determination and confidence of smokers to stop smoking. These levels were assessed pre intervention, and at 6 months and one year post intervention. The scale was a simple measure of assessing whether or not an individual was motivated to stop smoking and whether over time this motivation was sustained. The findings however suggest that the 'tick box' approach to determining motivation to stop smoking, did not accurately measure the level of motivation in all instances, and in particular the motivation of a number of nurses in the reference group. Levels of motivation identified from the Likert scales were compared with the open responses to the question "Why do you want to stop smoking?" Although 'ticking' that they "would like to give up smoking", there was clearly a discrepancy between the 'ticked box' and the 'written' response as illustrated below.

*"I don't ..."*

*"I'm not ready to stop yet"*

*"I 'm not sure whether I want to give up"*

Clearly on their own admission these nurses were not ready to stop smoking. This poses a question in relation to the frequently used 'tick box' approach to determining the motivation of individuals to stop smoking. A smoker's stage of readiness to stop smoking has typically been assessed with the questions "Do you want to stop smoking " and "Do you intend to quit in the next 6 months?" (Prochaska et al 1988). Those who respond "no" are categorised as in the precontemplation stage, and those who respond "yes" are categorised as in the contemplation stage. The current study challenges this approach and strongly suggests that a more accurate way to establish where a person is in the cycle of change is through careful open-ended assessment. It is therefore proposed that future research should employ this method of measuring motivation alongside DiClemente and Prochaska's (1982) transtheoretical model of behavioural change. While a number of authors have discussed the importance of Prochaska et al's model as a framework on which to base smoking cessation interventions (Biener and Abrams 1991; Sinclair et al 1997) to date, there are few published studies which have examined the distribution of Prochaska and DiClemente's stages in a representative population sample of smokers. Pallonen et al (1992) whose study assessed the readiness for smoking change among middle-aged Finnish men, based on Prochaska's model of behavioural change omit to identify in the report how readiness was measured. Similarly, Ruggerio et al (1997) when discussing a stage-matched smoking cessation programme for pregnant smokers, do not report which scale was used to establish the motivation of the smokers. Clearly more work is needed in this area.

It was evident that nurses in the current study were at different stages in the change cycle and were thus at different stages of readiness to stop. The majority of nurses in the intervention group were in the contemplation stage. They were aware that a problem existed and in the main intended to change their smoking behaviour. There appeared to be two groups within the contemplation stage, the nurses who claimed to want to stop but

proceeded no further, and those who were ready and determined to take action. This corresponds with previous research by Prochaska et al (1992) who found that while there is an acknowledgement of the need to stop smoking in the contemplation stage, some individuals remain in this stage for up to two years before any further action is taken and indeed, some never take action at all. The challenge then must be to provide ways to move them on from contemplation to action.

Clearly, nurses in the precontemplation group who did not want to quit, required a different type of smoking cessation programme which instead of focusing solely on the process of stopping smoking, concentrated on moving them from the precontemplation stage of indifference towards contemplation. Di Clemente and Prochaska (1985) report that during the precontemplation stage, smokers deal with the known dangers of smoking by accommodating themselves to smoking by denial or rationalisation. The fact that a large number of nurses and particularly mature qualified nurses employed this approach, confirms that they are not dissimilar to other individuals who smoke. Change therefore might be difficult to achieve with this particular group of nurses in view of the contextual and cultural influences on their behaviour. Indeed it might not be achieved at all and it may be that all that one can hope to offer the mature qualified nurses who smoke, is some form of support which would help them to cope with the difficulties they meet in their every day lives.

The findings do suggest however, that there was untapped potential to stimulate a shift in attitude from precontemplation towards contemplation amongst the student nurses and young qualified nurses who smoked. This was evident in the self expressions of some who were visually confronted by the potential detrimental effects of smoking on their health and others, when encouraged to explore the effects of their smoking behaviour on their health professional role, as illustrated below.

*“I don’t know ... I’ve never thought about that before”*

*“You’re making me think ... I’ve never thought why I smoke “*

*“Discussing it like this makes you think. I’ve never thought of how effective I am”*

*“I suppose now that you are making me think ... I’m not effective”*

The challenge for the profession is to identify ways of provoking nurses to explore their smoking behaviour and its potential detrimental effect on their health and professional role. Indeed, the same challenge should apply to all programmes which seek to encourage health professionals to change any behaviour which is detrimental to their health. The individualised intervention as used in this study, with its emphasis on exploration of health beliefs and health promotion role seemed to be an appropriate method for this purpose.

In summary, an important finding which emerged from the work was the extent to which nurses who enrolled in the smoking cessation intervention were ready to change their smoking behaviour. Thus the study has clearly demonstrated the need for careful open ended assessment of motivation, which is followed by interventions based on appropriate theoretical underpinning. It is suggested that success in smoking cessation will always be a mix of pitching interventions to the readiness stage for change.

The study further demonstrated the dynamic movement which occurs across stages of change with many nurses like other individuals who smoke, alternating between stopper and smoker before they are a confirmed non-smoker. While some had resumed smoking by six months, others (student and qualified) who were smoking at six months had stopped at one year. This clearly raises some important questions about the validity of previous research and demonstrates the need for smoking cessation interventions which incorporate tightly controlled evaluative measures.

## The One Year Post Intervention Quit Measures: Issues of Validity

It has been clearly identified in Chapter Two that the conventional "success" indicator of smoking cessation has been quitting at one year. The careful and intermittent tracking of subjects smoking status in this study illuminated a potentially serious flaw in much of the previous cessation research. Analysis of objective measurement of smoking status both at six months and one year clearly established that 25% of smokers in the intervention group had stopped smoking at one year post intervention compared with 8% in the reference group. First, the study provides evidence to strongly support the importance of objective validation of claims to smoking cessation. Not all who self reported quitting had in fact done so. It is clear that salivary cotinine measurements provided the most accurate analysis of smoking cessation. Due to its long half life, cotinine can be detected up to five days after the most recent cigarette has been smoked (Cundy 1985). As previously identified in Chapter One, few studies have used this method of analysis and while some base smoking cessation on carbon monoxide measurements, the majority rely on self reporting of smoking behaviour. This is a serious omission on behalf of those doing any such research and if perpetuated, reported smoking cessation outcomes will continue to be misleading and the rigor of the research will remain compromised.

Secondly, this study has demonstrated the importance of measuring smoking cessation at interim periods so that continuous smoking cessation outcomes can be reported. As previously indicated, not all nurses who stopped smoking at six months remained abstinent at one year, and some who were smoking at six months, in fact stopped at one year. This poses a question as to the reliability and validity of studies which in the main have based their cessation rates on the conventional method of reporting outcomes at a fixed point of one year. While a number of authors claim good cessation rates at one year, relatively few have evaluated interim smoking status at six months (Gauen and Lee 1995; Sanders et al 1993).

As previously discussed in Chapter Two, Richmond (1994) criticises the methodology of much of the smoking cessation literature. In evaluating the effectiveness of three smoking cessation interventions she reports that at a fixed point of one year, prevalence rates were 19%, 18% and 12% respectively. When employing interim measures, however

continuous abstinence at one year was only 9%, 9% and 6% thus demonstrating a substantial variance between the two sets of outcomes and highlighting the importance of interim measurements. When comparing the 25% plus 8% cessation rates in the current study with those of Richmonds, the nurses' smoking cessation rates are indeed very favourable. They indicate an accurate reflection of the impact of the smoking intervention programme, based on those who had stopped smoking at both six months and one year and verified by measurement of cotinine in saliva specimens. Clearly there has been a lack of rigor in evaluating effectively the large majority of randomised controlled trials. It would seem that a more appropriate method of accurately reporting smoking cessation hinges around evaluation at a six month interim period.

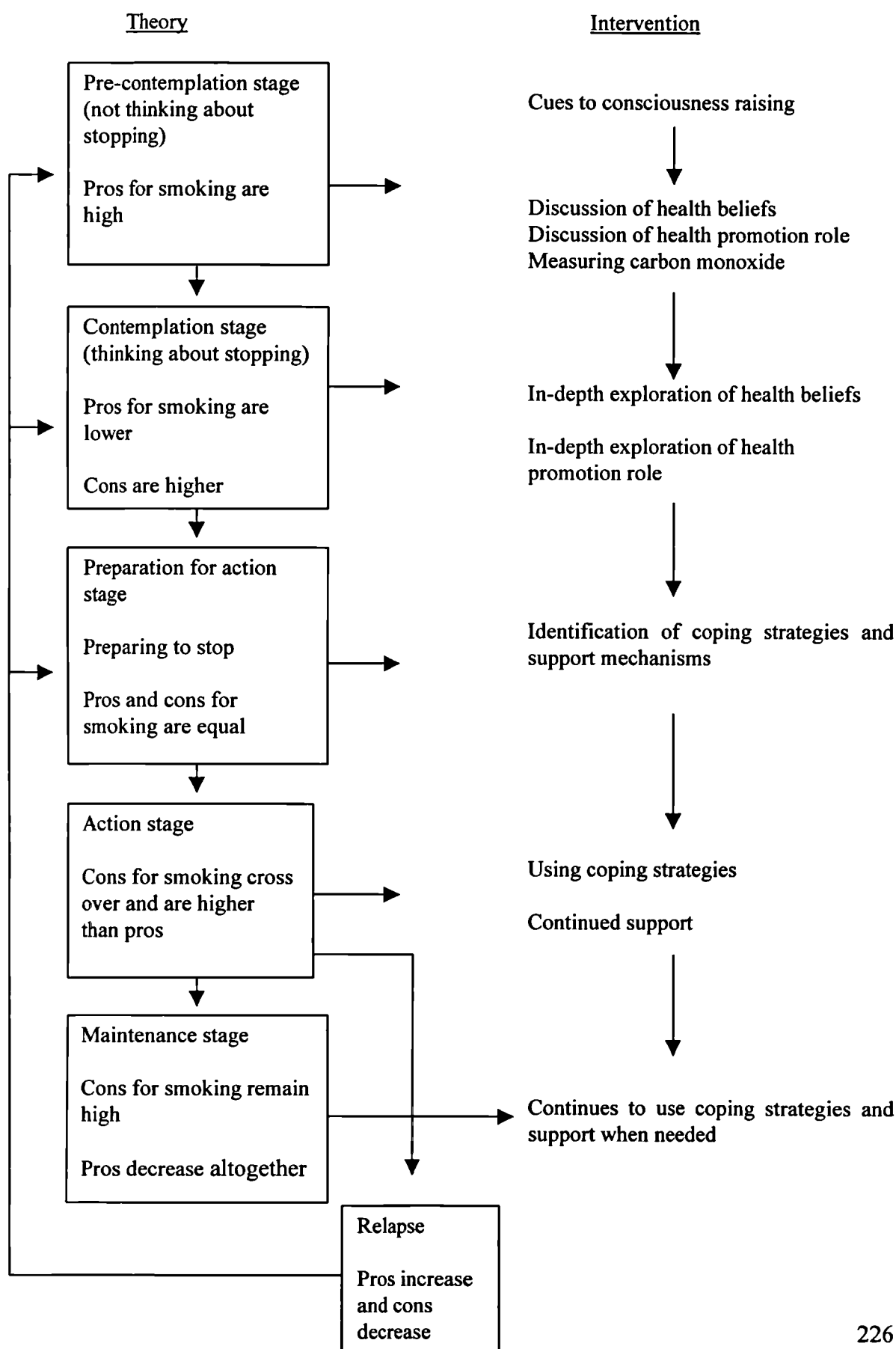
Most importantly, the study provided important insights into the dynamic process which stimulated nurses to stop smoking.

### **Identifying the Impetus to Stop: Provoking the 'Damascus Road' Experience**

It is clear that the nurses who stopped smoking, responded to a powerful 'Damascus Road' type experience. The internalisation of the detrimental effects of smoking on their health and health promotion role dramatically stimulated action and subsequent quitting. These findings again correspond strongly with Prochaska and DiClemente's (1983) study of the processes of change. They report that 'consciousness raising' progresses to a higher level in the contemplation stage and perceive self-reevaluation as bridging contemplation and action. The decision to stop smoking was clearly influenced by the weight the nurses gave to the pros (positives) and cons (negatives) for smoking and is consistent with the decisional balance theory (Janis and Mann 1977). In testing this theory, Prochaska (1994) and Velicer et al (1995) propose that the cons for smoking increase in importance during the contemplation stage to a point in which they equal the pros and it is at this point that decisional considerations are in balance. This is important and demonstrates the significance of introducing well-timed provocations during the contemplation stage which will raise consciousness of the detrimental effects of smoking and tip the balance in favour of quitting. This is illustrated in Figure 3.

**FIGURE 3**

Applying Prochaska and DiClemente's (1982) Transtheoretical Model of Behavioural Change to the Individualised Smoking Cessation Intervention. (Adapted from Abrams, D.B. et al 1994.)



## Essential Stimuli

A number of key essential provocations facilitated the 'Damascus Road' type experience. One provocation took the form of awareness of the negative effect of smoking on the nurse's health. Others related to the negative effect of smoking on their role as a promoter of health. In the main the provocations came in the guise of confrontations by either (i) family and friends, (ii) patients or relatives or (iii) visual observation of the effects of smoking on their health. Confrontation with the detrimental effects of smoking had a triggering effect with nurses stimulated to take action to stop. Thus it is clear, that although the ultimate decision to stop smoking must come from the individual, there is the potential for anyone in the contemplation stage to be provoked towards a 'Damascus Road' type experience, culminating in internalisation and stopping smoking. This important finding may indeed be the key to helping nurses and others to stop smoking. It is proposed that a worksite based intervention for nurses which includes exploration of their smoking behaviour and confrontation about the effects of their smoking on their health and professional role, as used in this study, is indeed a useful method for potentially triggering a response. As already indicated in Chapter Six, a number of nurses in the intervention group who stopped smoking, freely admitted to the challenging effect of this approach.

While in the main, qualified nurses responded to provocations from friends and family and patients and relatives, student nurses tended to be confronted when seeing their carbon monoxide readings. This finding raises an important issue. If student nurses were confronted with a simple immediate method of 'consciousness raising' at an early stage in their nursing education they may potentially internalise the effects of smoking on their health and be moved to stop smoking at this point of their career. This in turn should ultimately have a significant beneficial influence on both their health and their health promotion role.

Examining the findings alongside the theoretical model of behavioural change revealed clear and distinct differences between the stages and indicate that interventions should be based at a less broad level and designed for each of the stages. As yet these do not appear to have been developed. This study provides some indication of potential triggers which



appear to move qualified and student nurses in the contemplation stage towards a 'Damascus Road' type experience and ultimately quitting smoking. It is suggested that in order to maximise the potential for nurses in this stage to stop smoking, future cessation programmes should be developed which incorporate confrontation methods pertaining to their health and professional role.

### Moving Smokers Through the Stages of Change

Prochaska et al (1991) are somewhat cautious about the likelihood of precontemplators moving readily to another stage of change and in particular the stage of action. Indeed, they postulate that there is nothing in the stages of change model to suggest that they will automatically or dramatically, progress to the next stage of change.

This study provides evidence to suggest that it is possible for some nurses in the precontemplation stage to be moved on to the contemplation stage of change, when confronted with the visual effects of smoking on their health. The raising of awareness through measuring carbon monoxide levels in expired alveolar air stimulated some students to reflect on the negative aspects of their behaviour. In addition as indicated by students self expressions, there is the potential for some student nurses and indeed some young qualified nurses to consider more fully the cons for smoking through exploration of the reasons behind their smoking behaviour. Thus while the precontemplation to contemplation change may not necessarily involve a change in smoking status, the goal should be to provoke a change in attitudes and intentions towards smoking cessation. It is proposed that the 'thought provoking' measures as used in this study would fit easily within the philosophy of health as projected in the educational curriculum and therefore the most effective time for consciousness awareness interventions with student nurses should be early in their nursing programme.

In considering when and how to move students who are in the contemplation stage on to action, the study suggests that again this should be when they first come into nursing. As illustrated in Chapter Six, some student nurses were reflecting on the incongruence of their smoking behaviour and the role of a nurse, before coming into nursing. This corresponds with Grimley (1992) who found that contemplators re-evaluated the effect

that their problematic behaviour had on their environment, especially the people with whom they were closest. Once more it is suggested, that if discussion and debate were incorporated into the curriculum when students first come into nursing, a number of those who are in the contemplation stage may be provoked to internalise the effects of smoking on their health and particularly, on their professional role. In so doing they may move from contemplation to stopping smoking. It would seem that in the past and particularly in this instance, vital health promotion opportunities for smoking cessation with student nurses, have been missed.

Secondly, the findings indicated that a number of students and qualified nurses internalised the effects of smoking on their health and on their role when confronted by patients and others about being a nurse who smoked. This is an important finding and further supports Grimley et al (1994) who found that contemplators struggle with questions such as "How do you feel about ... ", especially if their behaviour appears to effect others or put them at risk. The implications of this for future health promotion interventions with nurses is vitally important. It emphasises strongly, the need to provoke a 'Damascus Road' type experience in order to trigger internalisation. The study implied that facts and figures about smoking and health do not fit easily within a student's comprehension of his/her own health and thus, conventional methods of promoting smoking cessation are limited. It is suggested that discussion around their professional role might be a more effective method of promoting behavioural change with student nurses who smoke. Indeed, some students considered that it would be useful to involve an ex-patient in the discussion, as illustrated below.

(Std.n): Jen    *"Bring in a patient, let him tell us what it is like to have a nurse stinking of cigarettes, breathing over him ... "*

Examining the qualified nurses' findings alongside the student nurses' data, revealed that young qualified nurses responded in a similar manner to that of students. Stopping smoking was triggered by internalisation of the detrimental effect of smoking on their health or professional role. Thus it is proposed that smoking cessation interventions should be planned in work-site settings and that these should also, incorporate exploration of smoking behaviour in the context of their health and professional role. Clearly more work is needed in this area. Further research with other qualified and student nurses who

have given up smoking could provide more information on the 'Damascus Road' type experience and help to establish more resolutely the potential triggers to action.

While a favourable number of nurses stopped smoking (n=17) data obtained from the semi-structured interviews facilitated exploration into why the majority of nurses in the study (n=88) continued to smoke. It was clearly identified that qualified nurses who smoke are women who smoke and student nurses who smoke are adolescents who smoke and as such, behave the same. While there were a number of nurses who were ready to take action, there were a number of potential influences which hindered some from moving from contemplation to action and others from moving from precontemplation to contemplation. Similarly, influences were identified that hindered maintenance of smoking cessation. Many of these influences centred around the relationship with cigarettes.

### **Qualified Nurses Who Smoke Are Women Who Smoke: The Importance of the Relationship with Cigarettes**

It has already been identified that qualified nurses who smoke are women who smoke. Women's lives, and the roles that many of them occupy are demanding and can give rise to considerable stress. The findings suggest that the qualified nurses had made choices to help them cope with stress. One choice was to smoke or not to smoke. For them, not smoking meant increased stress and an inability to cope with the demands of domestic, family and professional responsibilities. Conversely, despite the alternative detrimental effects on their health, smoking provided a necessary resource which helped them to cope with the responsibilities of everyday living.

### **The Lover and Best Friend**

The study clearly demonstrated that many of the mature qualified nurses who continued to smoke had an amazing 'love affair' with cigarettes. They freely expressed that cigarettes were everything to them and without them they could not carry on. Thus, cigarettes were their intimate friend and lover when no one understood their feelings of despair, and their lifeline when life became intolerable. Clearly, the love bond they

developed with cigarettes was seen as the most precious resource they had in their everyday lives. It was not just an added luxury.

(Q/N): Rhoda *"I just love my cigarette. I just love it ... it's my best friend .... I couldn't ever see myself giving it up."*

In essence, the study identifies a group of qualified nurses who are powerless to break the strong love relationship with cigarettes even when confronted themselves with the serious consequences of continuing to smoke. As previously discussed, mature qualified nurses who smoke behave as other women in a similar situation and smoke for the same reasons. While it was not the purpose of the nurses' study to examine the socio-economic class of the nurses, and no claim is made to suggest that smoking by qualified nurses is related to poverty, some indirect comparisons can be made with general studies which have focused on the smoking behaviour of women. The findings indicate that the majority of qualified nurses who continued to smoke were married and had responsibility for children. In addition, a number had spouses who were unemployed, thus they experienced considerable stress in relation to caring for the family and at the same time being the sole financial provider. Others had caring responsibilities for elderly or sick family, along with the responsibility of keeping professionally and academically updated.

In view of the relative lack of empirical work focusing on this area, the findings from the current study cannot be compared with other studies which have looked at the reasons why nurses smoke. These in the main have attempted to determine whether there is a correlation between the smoking behaviour of nurses and the occupation of nursing (Tagliacozzo and Vaughn 1982; Spencer 1984; Cinelli and Glover 1988). This study has identified that there are clearly wider issues which as yet have not been addressed in previous research pertaining to nurses smoking. There is however, a strong consistency with findings reported by Graham (1994). It would seem that qualified nurses who experience stress in their everyday lives and smoke, develop a powerful loving relationship with cigarettes similar to other women in parallel situations. This relationship is so strong that it overrules any concern about the potential detrimental effects on health. The love for cigarettes is very much the overriding priority and the individual is totally unable and unwilling to give them up.

(Q/N): Hazel *"Cigarettes are part of my life. I wouldn't be without a packet of Cigarettes ... I feel that they are part of me ... I wouldn't be without them."*

The assertion that this group of nurses may be locked in a potentially irreversible situation, has serious implications for their health. Peto et al (1994) report that much larger future mortality is expected among females if current patterns of smoking persists. Indeed, many of the mature nurses who smoked, freely expressed that they were already experiencing some ill effect of smoking. The study has identified a group of qualified nurses whose relationship with cigarettes is more powerful than their knowledge of the effects of smoking on their health and their professional role and thus they may never give up smoking. As with disadvantaged women, traditional smoking cessation programmes are of little value to this group of mature nurses, in that they find it difficult to move beyond their daily struggle for survival, to value the benefits of smoking cessation. It would seem that rather than concentrating solely on their detrimental health behaviour, these nurses might benefit more from supportive programmes which focus on empowering them to cope with their difficult circumstances. It would appear that the potential influences hindering the mature qualified nurses in this study from stopping smoking, are considerably different to those experienced by the student nurses and young qualified nurses. While they engaged in some type of cognitive activity and experienced varying degrees of conflict, they were powerless to break the strong love relationship with cigarettes.

The findings have extended knowledge in relation to the reasons why the mature qualified nurses in this study continued to smoke. The implications of this for their health and professional role are discussed in a subsequent section. Further research is needed in order to determine the relevance of these findings to other qualified nurses who smoke and to provide information which may determine the most effective support systems which should be offered to this particular group of women, for whom the loving relationship with the cigarette means all.

Moreover, the study provided insight into the reason why so many of the student nurses continued to smoke. This also centred around a powerful relationship.

## **Student Nurses Who Smoke: The Importance of the Relationship With Cigarettes**

The study clearly demonstrates that young nurses who smoke are primarily young people who smoke and as such they smoke to the same extent and for the same reasons as other young people and in particular, young women. The study identified that the overriding influence determining why the majority of student nurses continued to smoke, was related to the powerful relationship with their smoking peers. Clearly with student nurses, the power of this relationship was so strong that peers were all and friendship everything, with the cigarette remaining central to the friendship. Moreover, the research demonstrated that in this instance, the powerful relationships with smoking friends were nurtured within the somewhat 'colluding environment' of the College of Nursing.

### **The Powerful Relationship with Peers**

While it would seem that employing coping strategies can help a number of students to resist temptation to smoke and thus maintain abstinence, the problem with the majority goes further and, it is not so much the temptation to smoke but the sense of jeopardising the relationship with smoking friends, that influences them to continue or resume smoking as illustrated below.

(Std.n): Carin *"For me to stop smoking would mean finding a set of new friends"*

(Std.n): Liz *"To stop smoking is like they don't trust you anymore"*

This suggests a developmental process by which student nurses who enter nursing as a smoker, associate with peer groups whose members smoke. Consequently the strong relationship with peers reinforce smoking behaviour and the smoking habit is maintained. These findings match closely those of Fergusson et al's (1995) adolescent study, and are also consistent with Blakey and Seaton (1992), who found that the majority of student nurses smoked more when with a friend and in addition, relatively few gave up smoking during their nursing education. The fact that student nurses who smoke are powerless to break the strong relationship with their smoking friends, is an important finding and has implications for future health promotion interventions among adolescents in general and

student nurses in particular. First as previously discussed, it would seem that the most effective time to commence smoking cessation programmes with student nurses is when they first come into nursing and before they make strong relationships with other smoking peers. Second, for those who want to stop smoking, it would appear that along with coping strategies they may benefit from some type of assertiveness training which empowers them to resist the feelings of rejection by the group during attempts to stop smoking.

The evidence provided by this study indicates that energy should be directed towards student nurses and young adolescents in general who smoke. Further studies should help to establish appropriate and effective ways of obstructing the development of strong smoking relationships. The study identified that one way to do this would be to provide an environment which is conducive to stopping smoking.

### The Colluding Environment

The findings demonstrated that in this instance, the environment in the College of Nursing was such that it potentially provided students with an unwritten licence to smoke and a place where strong smoking friendships were affirmed and the smoking habit nurtured.

In reviewing the literature it would appear that the potential effects of reducing student nurses exposure to environmental situations has received little attention. Clearly efforts should be made to make smoking more difficult among young people and in this instance among young student nurses. The fact that they identified the smoking room in the college of nursing as somewhat of a trysting place, should be a matter for serious concern for those responsible for nurse education and for promoters of health.

There is a real need for the nursing profession to review the present policy of providing a smoking room in an establishment where student nurses spend a large amount of their time. It seems reasonable to suggest that the first step in creating an appropriate culture and removing the barrier from those endeavouring to stop, would be to introduce a total smoking ban in colleges of nursing and in clinical areas. As previously identified in the

findings in Chapter Six, while student nurses enjoyed the easy accessibility of the smoking room, many were not opposed to a ban on smoking. It seemed there were two reasons for this. First, those who attempted to stop smoking perceived the smoking room to be a definite barrier to quitting and second, despite enjoying the convenience of a meeting place, the majority of smoking nurses acknowledged it to be a potential health hazard, attributing this to the size of the room relative to the large number of nurses who smoked.

(Std.n): Sally *"I think the smoking room in the college is a bad idea. When you go in there's a mist of smoke. Not only are you getting nicotine and carbon monoxide and whatever else from your cigarette, you are getting it from 30 others. You can't breathe and you can't even open the door with nurses leaning up against it. That doesn't sound like a place that is encouraging health promotion."*

This finding is important. In the main, restricting smoking in public places has generally been seen as a means of protecting the health and well-being of non-smokers. The fact that young females are continuing to smoke and the death rate of females from smoking related diseases is continuing to rise (Peto et al 1994), suggests that it is not sufficient to aim smoking policies solely at the protection of the non-smoking population of nurses. Most important, the findings from this study indicate that smoking cessation programmes should look wider than the individual and include measures to overcome environmental barriers. Therefore in the light of the evidence generated by this study it is concluded that by removing smoking rooms completely from colleges of nursing and hospitals it may be somewhat easier for student nurses who wish to attempt to stop smoking to break the strong relationship with smoking peers. At the same time, it may ensure that nurses who continue to smoke, are not exposed to an environment which is even more hazardous to their health.

Moreover, the study clearly identified that while nurses' smoking behaviour centred around strong relationships, the relationship with cigarettes caused considerable discomfort.



## **Cigarettes: The Uncomfortable Friend**

The research demonstrated the tensions that smoking nurses experience when on one hand, the cigarette is their best friend and on the other it is not congruent with their professional role. Similarly, they experienced conflict in relation to their smoking behaviour and the impact of this on their health and family health.

### **Conflict with Professional Role**

While qualified nurses smoke to the same extent as their female counterparts in the general smoking population, they are extremely aware of the potential detrimental effects of their smoking behaviour on their professional role and experience conflict in relation to their role as promoters of health. The conflict emanates from the fact that not only is their professional credibility in question but so also is their personal credibility. This finding is consistent with that of Sacker (1990) who suggests that the main issues surrounding being an effective role model revolve around personal effectiveness.

As indicated in Chapter one, the extent to which nurses' smoking behaviour effects their professional role is an area which is largely unexplored. While Mundt et al (1995) report that only 38% of nurses who were smokers ever encouraged a patient to stop, the purely quantitative approach to data collection in Mundt's study provides only limited insights into the reasons for their lack of commitment.

This study clearly identifies that nurses who smoke, on their own admission are unable to play an effective smoking cessation role. It is evident that the relationship with the cigarette cannot be isolated from their professional role. This finding extends previous research which report that nurses currently play a limited role in health promotion (Gott and O'Brien 1990; Kendall 1991; Davis 1992; Macleod Clark et al 1993). Several reasons have been offered for this, including a lack of knowledge and skills. The evidence generated from the current study demonstrates very clearly, that negative health behaviours are definite barriers to helping patients and clients stop smoking. This supports Soeken et al (1989) who argue that before nurses can serve as role models for

positive health behaviours, they must incorporate these behaviours into their own personal lifestyles.

The fact that qualified nurses who smoke, feel they cannot effectively promote smoking cessation, raises important issues for professional practice. First, it would seem that a radical shift in opinion is required from the popular belief that all nurses should be involved in all aspects of health promotion, to a reality situation that accepts that nurses who smoke are hindered greatly in helping others to quit. Similarly, this may apply to nurses and health professionals who practice other detrimental lifestyle behaviours. Secondly, a question is posed as to how to maximise public confidence in the exemplary role of the nurse. It may be that nurses who smoke should be channelled away from patients who require smoking cessation interventions. It is recognised that such a policy may not be accepted lightly by nurses who smoke and potential questions may be raised as to the suitability of other nurses to carry out a role in promoting health, if they are obese or practice other behaviours which are considered detrimental to health. This study however does provides evidence which illuminates the incongruence of nurses who smoke and this requires considerable deliberation on behalf of the nursing profession.

What is important, is that health promotion progresses to its full potential within the nursing profession. As previously discussed, the study indicates that one way of accomplishing this might be to provide specific smoking cessation programmes tailor-made to target groups of student nurses and qualified nurses at different stages of the change process. Therefore provoking nurses to explore the tensions between their smoking and their role would seem to be an appropriate method of raising the awareness of their contradictory behaviour. A further question is posed as to whether it would be beneficial to identify and train certain qualified nurses to be responsible for promoting smoking cessation among patients and clients in each clinical area. This may make a significant impact on the smoking behaviour of individuals in the general smoking population, by focusing energies in a more concerted way.

When examining the smoking behaviour of student nurses, this study clearly demonstrates that students did not perceive smoking to be compatible with their choice of a health oriented career in nursing. Indeed as intimated previously, they had entered

nursing with some expectations of how a nurse should behave and were confused with regard to the smoking environment within the Hospital and College of Nursing. This illustrates the incongruence of a weak policy which introduces smoking rooms into a health establishment instead of a total smoking ban. The fact that the students were embarking on a health oriented profession, the philosophy of which was at odds with the environment wherein they were educated, has serious implications for both their own health and their future role as promoters of health. Clearly if health promotion is to become a reality amongst student nurses, there must be a shift from the apparent apathy which presently exists in some educational establishments, to the development of a more positive health promotion environment in nursing educational establishments and hospitals in general.

These findings indicate that there is great potential for developing student nurses' awareness of the implications of their smoking on their professional role. It would appear that they are open to discussion and it is with this group that smoking cessation programmes should be targeted and may prove to be most beneficial. Core components of any educational programme with student nurses and indeed other health professional students should include not only discussion of the physiological aspects of smoking but an exploration of both the social and professional implications of this behaviour. Additionally, the expressed perceptions of a number of the student nurses that nursing should potentially reflect a healthy person and a healthy outlook on life, presents a challenge and provides scope for a more vigorous and innovative approach to health promotion in general with nurses. It is suggested that by removing smoking rooms from the educational establishments and hospitals and replacing them with physical and social resources for health oriented activities, an overall healthy attitude to lifestyle could be fostered. Moreover, it may be that by introducing a multicomponent lifestyle programme to student nurses at the commencement of their nursing education, the concept of health promotion could become a total reality. This study identified that in this instance the nursing profession in particular, had made little if any effort to help student nurses to stop smoking.

Whilst various approaches have been suggested as appropriate methods for preventing initiation of smoking in adolescents in general (Fergusson et al 1995), there are few

published reports of programmes specifically designed to help those who already smoke, to quit. This study has clearly indicated the conflict that smoking nurses experience in relation to their professional role. At the same time it has identified areas for maximising smoking cessation amongst nurses and in particular student nurses. While the future for health promotion with this group of nurses looks promising, the question remains whether the nursing profession will accept the challenge.

In addition, it has been identified that young qualified nurses' smoking behaviour is similar to that of student nurses. They too, are aware of the incongruence of their smoking behaviour and their role as a nurse. However, while there is the potential for some to change their smoking behaviour, it seems that this would only take place within certain parameters. Two major issues emerged from the findings. First, standardised formal programmes do not appear appropriate for qualified nurses. The favourable outcomes from the intervention both in terms of recruitment and maintenance, clearly suggest that qualified nurses benefit from an individualised approach. Further, they value the support of their colleagues. Whilst the study indicates clearly that the incidence of smoking among this group of nurses, paralleled that of other females of their own age and socio-economic group, the nurses themselves strongly proposed that debate about nurses' smoking cessation issues should be in the context of other nurses and not the general smoking population.

(Q/N): Muriel *"Nurses need something for nurses alone. I wouldn't go and be stuck along with a load of other people ... definitely not. You don't like to admit you have a problem. It would be different if it was just for nurses because you could discuss and see if there are common problems to nurses. We could support each other."*

Secondly and most important, it seems that whatever programme is to be introduced, it should be offered at times which are convenient for nurses.

(Q/N): Erica *If we could get together and talk about these things, but at a time which suits us, not at 8 o'clock at night when the majority of us have gone home. Who is going to get themselves ready and come back into this place again? No one .... you can't wait to get out of the place. I know some of us would maybe go during the day. Time should be set apart for us during our working day to go."*

The insights provided by this study have major implications for the future planning of smoking cessation programmes for qualified nurses and in particular young qualified nurses. It is strongly suggested that a suitable forum is provided in the clinical area which will provoke this group of nurses to explore the tensions associated with their smoking behaviour and their professional role. This might raise awareness of the cons for smoking among those in the precontemplation stage and similarly, stimulate those in the contemplation stage to internalise the effects of their smoking behaviour and stop smoking.

In summary, it has been identified that many nurses who smoke feel that they are not in a position to promote smoking cessation. This finding is important and indeed should send a strong message to the nursing profession about the impact of nurses' smoking on their professional role. The fact that nurses who smoke have conflict with their role is clearly an area which should be explored by nurse educationalists, the nursing profession and those interested in promoting health.

In addition the study identified that nurses are not immune to feelings of conflict in relation to the effects of smoking on their health and that of their family.

### Conflict with Health and Family Health

It is clear from the findings that mature qualified nurses experienced tension between their smoking behaviour and their health. This is an area which has also been unexplored to any great extent in studies of nurses' smoking behaviour. The findings differ somewhat from those of Mundt et al (1995) who report that only 20% of registered nurses were willing to accept the health risks of smoking. Again, this may reflect the limitations of the method of data collection and highlights the importance of studies which explore in-depth, the health beliefs of nurses who smoke. This current study suggests that qualified nurses who smoke, develop an amazing ability to deny the consequences of smoking. In spite of this, such denial does not usually reflect a cavalier approach but appears to be a definite coping mechanism. It is evident that having a knowledge of the detrimental effects of smoking on health does not equate with the ability to stop. This poses a

question as to what, if anything can be done to encourage and support this important group of nurses to stop smoking.

The unique insight into their feelings of conflict clearly demonstrates that this important group of nurses require a high level of social and psychological support. Indeed, as previously identified this may be all that health promotion can hope to achieve. The fact that they showed interest at all in the smoking study when so firmly bound by cigarettes may be a strong indication of the extent of their conflict and need.

Student nurses and young qualified nurses in the main, did not seem to experience the same feelings of conflict about smoking and their health as did the mature qualified nurses. While they universally agreed that cigarette smoking was detrimental to health, the majority did not perceive that they themselves were vulnerable. In spite of embarking on a career as health professionals and despite being exposed regularly to the ill effects of smoking, it seems that in the main student nurses and young qualified nurses go through a stage of feeling invulnerable to death and life threatening illness. They consider health as being fit and able to do things for themselves and so long as this status remains they do not see a need to stop in the near future. The situation differed with those who had a 'Damascus Road' type experience and internalised the detrimental effects of smoking on their health. The more they internalised the negative effects of smoking, the more they perceived vulnerability as personal. This is an important finding and as previously indicated, it highlights the potential for future smoking cessation programmes, the aim of which should be to provoke students and young qualified nurses to feel a personal vulnerability in relation to the detrimental effects of smoking on their health. Thus the study identified that in-depth exploration of smoking behaviour and health beliefs, along with visual observation of carbon monoxide levels in expired air, may be the key to facilitating this group of young nurses to progress from precontemplation to contemplation. It may also facilitate a 'Damascus Road' type of experience which will move them from contemplation to stopping smoking.

Clearly the ultimate health promotion challenge is to facilitate nurses and health professionals in general to change their smoking behaviour and become responsible role models for health.

## **Nurses Who Smoke: A Health Promotion Paradox**

Nurses comprise the largest group of health professionals, and thus have a responsibility to influence the smoking behaviour of other individuals. They have however, been frequently identified as a group of people who should change their own smoking behaviour. This study has shed light upon the smoking behaviour of nurses and highlights the fact that nurses who smoke present the ultimate contradiction to the philosophy of promoting health which should underpin their practice. While caution is required in relation to generalising the findings of this study, there is evidence to suggest that in this instance the very essence of the nurse's role as a promoter of health is seriously compromised. The challenge for the nursing profession and those interested in promoting smoking cessation, is therefore to get nurses to the point of internalising the link between their own behaviour and their health promotion role, and then to offer support to stop smoking.

The findings further suggest, that in spite of the health focus to nursing education as articulated in the pre-registration programme (Project 2000), nurse teachers who smoke provide poor role models. The question is posed as to whether indeed they should teach health promotion, when they do not practice healthy lifestyle behaviours. Moreover, curriculum content in relation to nurses as healthy role models appeared to be contradicted. Thus, student nurses through their limited understanding were hindered from internalising the goal of health promotion and from developing an effective health promotion role in smoking cessation, as illustrated below.

(Std.n): Heather *"I think too, that when we first come into the college we could talk more about our health promotion role, like you and I are doing now and let us have a discussion, debate and talk it through ... that makes a student think. Instead we definitely aren't made aware of our role early enough. What does health promotion mean? What does it involve for the nurse who smokes? How does the patient feel knowing the nurse smokes? A lot more could be done to make our health promotion role alive, and to make us think ... make us understand what is expected of us ... make us think about stopping."*

Clearly, an issue is raised as to the generalisability of the situation. While research in this area is sparse, Blakey and Seaton (1982) Faulkner and Ward (1983) and Haughey et al

(1989), suggest that there are serious deficits in nurses' health promotion practices pertaining to smoking cessation. In the light of the findings of the current study, it is essential that further research is carried out in this area to explore the effect of their smoking on the health promotion role of nurses and nurse teachers.

### Confronting the Paradox

There is no easy answer to the problem of individuals who smoke and in particular nurses who smoke. While the study has identified that nurses who smoke are also women and young adolescents who smoke, the difference is, that they are health professionals who smoke. It has previously been identified that nurses in this study who smoked, felt that they were compromising their health promotion role and that they could not make an effective contribution to the area of smoking cessation. Therefore it is reasonable to suppose that the same is true of other health professionals who smoke. Until they are confronted with the incongruity of their behaviour, it is not likely that there will be any real development in the effectiveness of nurses and other health professionals as promoters of health. Attention must therefore be focused on those inside the health profession in order to make a significant impact on the smoking behaviour of nurses and on their health promotion role.

A major issue however, centres around the fact that there are a group of mature qualified nurses who in view of their domestic circumstances, may never respond to any form of smoking cessation programme. It is a popular belief by those who promote a healthy lifestyle that smoking is a practice which is undesirable and indeed contradicts the essence of the professional role of a nurse. There may however be times when it is necessary to progress from this conventional opinion, to developing a more sympathetic approach and understanding of why smoking is essential to the mental well-being of some nurses and women. In terms of future planning for this particular group, this will mean resisting the temptation of perceiving that all must quit smoking and instead, offering some type of alternative programme of professional, psychological and social support in an effort to minimise the stress that they experience. It would also seem essential to institute measures which would relieve both the conflict they experience through a compromised health promotion role and the impact of this on patients.



Alternatively, the study offers a challenge in relation to targeting student nurses and young qualified nurses to stop smoking. It has clearly been identified that motivation levels must be determined in order to plan interventions appropriate for the stage of change the individual is at. If provocations can be introduced in the contemplation stage this may trigger internalisation and lead to action and stopping smoking. Confronting nurses about the effects of smoking on their professional role may indeed stimulate a 'Damascus Road' type experience. Similarly, discussion and visual awareness of the detrimental effects of smoking on their health may raise the awareness of vulnerability and stimulate a progression from precontemplation to contemplation. In addition, the fact that those who were successful in stopping smoking, used cognitive and/or behavioural coping strategies supports Grimley et al (1994). In addressing "who changes" in treatment and "who fails", they conclude that traditionally the blame for failure has been attributed to an individual's characteristics rather than the environment in which the person is trying to make the change. Thus, in preparing nurses for action, it is strongly proposed that programmes should incorporate identification of coping strategies and support mechanisms as used in this study, the aim of which is to empower individuals to resist the temptation to smoke.

## **CONCLUSION**

In conclusion, a number of key issues can be identified which warrant exploration in terms of their implications for nurses' education and practice and the directions which they highlight for future research.

This research has demonstrated that in the sample studied, smoking rates amongst qualified nurses were similar to that of females in a similar socio-economic group in Northern Ireland. However smoking rates amongst the student nurses appeared considerably higher than adolescents in the general Northern Ireland population. The difficulty of comparing these rates with other studies, stems from the fact that there has been a limited focus on this area since the 1980s and what studies there are, are in the main compromised as outlined in Chapter One. This is important and emphasises the need for future studies which examine nurses' smoking behaviour in parallel with that of similar female groups of the same socioeconomic group and age.

There have to date been few attempts to explore and explain the reasons why nurses smoke, but the findings from the study suggest that the experiences, perceptions and behaviour of qualified nurses and student nurses who smoke, mirror those of women and young people in general. Mature nurses' smoking behaviour can be linked to stress encountered in their every day lives, while student nurses' and young qualified nurses' smoking encompass deep relationships with smoking friends. The qualified nurses were very aware of the detrimental effects of their smoking on their health and on their role as promoters of health and experienced considerable conflict. Student nurses expressed they lacked understanding of many of the concepts inherent in the philosophy of health promotion and were confused by the mixed messages they received in the College of Nursing. Such limited vision is likely to have serious implications for professional practice. It is inevitable that student nurses will not develop an awareness of the importance of health promotion particularly in the context of smoking cessation, if they are not challenged by those who are responsible for teaching them and, if they are potentially provided with an unwritten licence to smoke. This is particularly likely in view of the lack of attention paid by the professional and statutory bodies and other policy makers to the issue of nurses smoking. What is required, is a radical shift of emphasis

away from the present victim blaming approach to nurses who smoke, to offering support to enable them to change their smoking behaviour and to removing all environmental barriers.

The findings from this study have implications for the future direction of smoking cessation research. It is clear that self-reports of smoking status are not a reliable estimate of smoking cessation outcomes. In addition, studies which report outcomes at one year and fail to incorporate interim evaluative measures of smoking status may not reflect a true account of smoking status. It would seem therefore, that the majority of research with the general smoking population do not provide an accurate account of the effectiveness of smoking cessation programmes. Indeed, most smoking cessation programmes simply give an estimate of the number of individuals stopped at a single point of time and do not reflect continuous cessation.

Data from both the questionnaires and the interviews suggest that a number of key factors may be instrumental in determining the extent to which smoking cessation programmes in general are effective. These concern the lack of accurate measurement of readiness of individuals to stop smoking and the relevance of interventions. The nurses studied were clearly at different stages of DiClemente and Prochaska's (1982) behavioural change process. Some were ready for action. Others were not contemplating stopping in the near future and indeed some, may never be able to quit. The study indicates that standardised smoking cessation programmes are insufficient to achieve any real advancement in smoking cessation outcomes as they may not match smokers needs at relevant stages in the change cycle. Only when individuals in general and nurses in particular, are provided with programmes that stimulate progression from precontemplation to contemplation, from contemplation to action and from action to maintenance, will there be a greater impact on their smoking behaviour.

This research has illuminated that the overriding influence on the final decision by nurses to stop smoking is internalisation of the detrimental effects of smoking on their health and/or professional role and that this may be provoked by a type of 'Damascus Road' experience. This has promising implications for future interventions with nurses and any other group of smoker and indicates the importance of programmes which prompt nurses

to explore the reasons behind their smoking behaviour and the effects of this on their health and role. The individualised approach to smoking cessation employed in this study makes a positive contribution in this area. However, further research is recommended using a similar approach to test the generalisability of this claim.

Most importantly, it is clear from the evidence presented, that the ultimate health promotion challenge centres around nurses and smoking. Until smoking nurses are stimulated to confront and internalise the impact of their smoking on their health and, their role as promoters of health, it is unlikely that many will stop smoking. It is unlikely too, that there will be any real development in their contribution to the area of smoking cessation with patients and clients. In order to ensure that health promotion moves beyond the level of rhetoric and towards meeting the aims of the World Health Organisation in practice, there is clearly a need for the nursing profession to send out strong messages to nurses about smoking and then to develop a systematic approach to providing support for all nurses who smoke to quit. It is suggested that this study provides an impetus for discussion and debate about the ways in which this might be achieved.

## APPENDIX 1

### Cigarette Smoking Status by Age and Sex

*Adults aged 16-74*

*Great Britain*

Age	16-24	25-34	35-44	45-54	55-64	65-74	Total
Smoking status	%	%	%	%	%	%	%
<b>Men</b>							
Current cigarette smokers	42	35	29	27	27	21	31
Ex-regular cigarette smokers	2	15	28	36	47	55	28
Never or only occasionally smoked cigarettes	56	50	43	38	26	24	42
Cessation rate*	0.04	0.30	0.49	0.57	0.64	0.72	0.47
Base = 100%	230	459	432	352	332	312	2117
<b>Women</b>							
Current cigarette smokers	38	31	26	24	25	20	28
Ex-regular cigarette smokers	7	14	20	23	27	32	19
Never or only occasionally smoked cigarettes	55	56	55	53	48	48	53
Cessation rate*	0.16	0.30	0.43	0.49	0.52	0.62	0.40
Base = 100%	286	581	468	437	384	392	2548
<b>All</b>							
Current cigarette smokers	40	33	27	25	26	20	29
Ex-regular cigarette smokers	5	14	24	29	37	42	23
Never or only occasionally smoked cigarettes	56	53	49	46	38	37	47
Cessation rate*	0.11	0.30	0.47	0.54	0.59	0.68	0.44
Base = 100%	516	1040	900	789	716	704	4665

\* Cessation rate = % ex-regular smokers / % ever smoked.

HEALTH IN ENGLAND MONITORING SURVEY (HEMS) 1995

## APPENDIX 2

### Prevalence of Cigarette Smoking by Sex and Age: 1974 to 1994

*Persons aged 16 and over*

*Great Britain*

Age	Percentage smoking cigarettes											Base (1994)*
	1974	1976	1978	1980	1982	1984	1986	1988	1990	1992	1994	= 100%
Men												
16-19	42	39	35	32	31	29	30	28	28	29	28	402
20-24	52	47	45	44	41	40	41	37	38	39	40	549
25-34	56	48	48	47	40	40	37	37	36	34	34	1389
35-49	55	50	48	45	40	39	37	37	34	32	31	2207
50-59	53	49	48	47	42	39	35	33	28	28	27	1159
60 and over	44	40	38	36	33	30	29	26	24	21	18	1936
All aged 16 and over	51	46	45	42	38	36	35	33	31	29	28	7642
Women												
16-19	38	34	33	32	30	32	30	28	32	25	27	427
20-24	44	45	43	40	40	36	38	37	39	37	38	642
25-34	46	43	42	44	37	36	35	35	34	34	30	1823
35-49	49	45	43	43	38	36	34	35	33	30	28	2429
50-59	48	46	42	44	40	39	35	34	29	29	26	1167
60 and over	26	24	24	24	23	23	22	21	20	19	17	2620
All aged 16 and over	41	38	37	37	33	32	31	30	29	28	26	9108
Total												
16-19	40	36	34	32	30	31	30	28	30	27	27	829
20-24	48	46	44	42	40	38	39	37	38	38	39	1191
25-34	51	45	45	46	38	38	36	36	35	34	32	3212
35-49	52	48	45	44	39	37	36	36	34	31	30	4636
50-59	51	47	45	45	41	39	35	33	29	29	27	2326
60 and over	34	31	30	29	27	26	25	23	21	20	17	4556
All aged 16 and over	45	42	40	39	35	34	33	32	30	28	27	16750

\* Bases for earlier years are of a similar size and can be found in GHS Reports for each year.

HEALTH IN ENGLAND MONITORING SURVEY (HEMS) 1995

### APPENDIX 3

#### Cigarette Smoking Status by Social Class Based on Own Current or Last Job and Sex

*Adults aged 16-74*

*Great Britain*

<b>Social class</b>	<b>I &amp; II</b>	<b>IIINM</b>	<b>IIIM</b>	<b>IV &amp; V</b>	<b>Total†</b>
<b>Smoking status</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>Men</b>					
<b>Current cigarette smokers:</b>					
less than 10 a day	6	6	10	12	8
10, less than 20 a day	9	13	12	14	11
20 or more per day	7	9	15	12	11
<b>Total current cigarette smokers*</b>	<b>23</b>	<b>29</b>	<b>37</b>	<b>38</b>	<b>31</b>
Ex-regular cigarette smokers	33	25	27	23	28
Never or only occasionally smoked cigarettes	44	46	36	39	42
Base = 100%	805	226	652	385	2117
<b>Women</b>					
<b>Current cigarette smokers:</b>					
less than 10 a day	8	8	12	10	9
10, less than 20 a day	9	10	13	14	11
20 or more per day	5	6	15	10	8
<b>Total current cigarette smokers*</b>	<b>22</b>	<b>23</b>	<b>40</b>	<b>34</b>	<b>27</b>
Ex-regular cigarette smokers	21	19	20	20	19
Never or only occasionally smoked cigarettes	57	58	40	46	53
Base = 100%	712	847	255	660	2548
<b>All</b>					
<b>Current cigarette smokers:</b>					
less than 10 a day	7	8	10	11	9
10, less than 20 a day	9	11	12	14	11
20 or more per day	6	7	15	11	9
<b>Total current cigarette smokers*</b>	<b>23</b>	<b>25</b>	<b>39</b>	<b>36</b>	<b>29</b>
Ex-regular cigarette smokers	28	20	25	21	23
Never or only occasionally smoked cigarettes	50	55	37	43	47
Base = 100%	1517	1073	907	1045	4665

\* Includes those for whom number of cigarettes was not known.

† Members of the Armed Forces, persons in inadequately described occupations and persons who have never worked are not shown as separate categories but are included in the figures for all persons.

HEALTH IN ENGLAND MONITORING SURVEY (HEMS) 1995

#### **APPENDIX 4**

##### **Percentage of Cigarette Smoking by Gender and Age in Northern Ireland: 1990/91**

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<b>Males</b>	16-20 years	22%	<b>Females</b>	16-20 years	27%
	21-25 years	36%		21-25 years	37%
	26-30 years	35%		26-30 years	38%
	31-35 years	33%		31-35 years	30%
	36-40 years	32%		36-40 years	34%
	41-45 years	34%		41-45 years	33%
	46-50 years	31%		45-50 years	29%
	51-55 years	31%		51-55 years	26%
	55-60 years	32%		56-60 years	22%
	61-65 years	26%		61-65 years	28%
	Over 65 years	19%		Over 65 years	13%
	Total over 16 years	29%		Total over 16 years	27%

---

Northern Ireland Statistics and Research Agency (CHS) 1994/95



## **APPENDIX 5**

### **Percentage of Cigarette Smoking by Gender and Age in Northern Ireland: 1983 - 1990/91**

	1983	1984	1986	1988	1990/91
<b>Males</b>	<hr/>				
	%	%	%	%	%
<b>Years</b>					
16-19	31	27	30	25	24
20-24	46	38	37	37	40
25-34	42	41	43	40	40
35-49	45	43	38	38	34
50-59	41	40	36	33	34
60 and over	30	27	27	26	24
All 16 and over	39	36	35	34	33
<b>Females</b>	<hr/>				
<b>Years</b>					
16-19	19	17	21	20	27
20-24	39	33	37	43	31
25-34	41	41	39	40	40
35-49	33	34	39	35	37
50-59	32	33	35	29	31
60 and over	17	17	17	18	21
All 16 and over	29	29	31	30	31

## **APPENDIX 6**

### **Percentage of Boys and Girls Who Smoke Regularly at Age 15 in England: 1982-93**

---

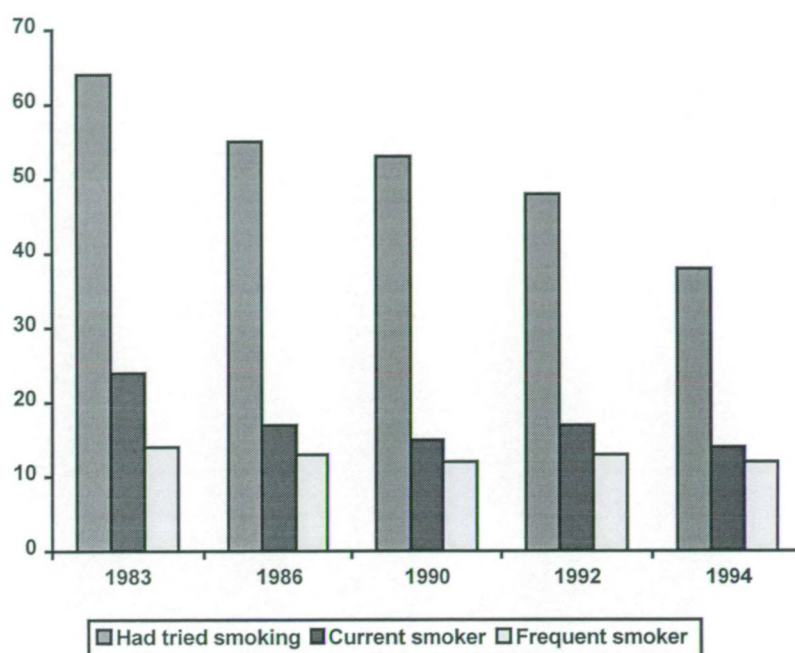
	1982	1984	1986	1988	1990	1992	1993
	%	%	%	%	%	%	%
<b>Boys</b>	24	28	18	17	25	21	19
<b>Girls</b>	25	28	27	22	25	25	26

---

OPCS  
Health Education Authority (1995)

## **APPENDIX 7**

### **School Children who smoke in Northern Ireland - results of surveys since 1983**



The above chart shows that there has been little change from 1983 to 1994 in the number of school children who smoke frequently.

Source: Health Promotion Agency N.I. (1995)

## **APPENDIX 8**

### **Smoking by Socio-economic Groups**

*Northern Ireland*

1994/95

---

	%
<hr/>	
<b>Female persons aged 16 and over</b>	
Total	27
Professional	25
Employer, Manager	19
Intermediate non-manual	22
Skilled manual	25
Semi-skilled manual	36
Unskilled manual	35
Armed forces, no SEG reg etc, full-time student	32
 <b>Male persons aged 16 and over</b>	 29
Professional	18
Employer, manager	19
Intermediate non-manual	27
Skilled manual	30
Semi-skilled manual	46
Unskilled manual	40
Armed forces, no SEG ref etc, full-time student	25

---

Source: CHS 1994/95

Northern Ireland Statistics and Research Agency

## **APPENDIX 9**

15 Levaghery Close  
Portadown  
Co Armagh  
BT63 5HL

Dear Colleagues and Students

### **PROPOSED PROJECT FOR QUALIFIED NURSES AND STUDENT NURSES**

I am a nurse teacher funded in part by the National Board for Nursing, Midwifery and Health Visiting (Northern Ireland) to undertake a post-graduate degree by research.

The focus of the research is on the evaluation of different approaches to helping people give up smoking. I will also be collecting data on the smoking behaviour of student nurses and qualified nursing staff, and I will let you know more about the project nearer the time of the study. Meanwhile I would be grateful if you would let me know whether or not you currently smoke by completing the section attached to this letter.

The information you give will be strictly confidential and used only for the purposes of this research study.

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

## **EXPLORATORY QUESTIONNAIRE NO. 1**

*Please put a tick in the appropriate boxes.*

Question (1)          Do you currently smoke?

Yes      ☐

No      ☐

Question (2)          What is your professional status?

Qualified Nurse      ☐

Student Nurse      ☐

**Thank you.**

## **APPENDIX 10**

15 Levaghery Close

Portadown

Co Armagh

BT63 5HL

Dear Colleagues and Students

### **EXPLANATION OF PROPOSED PROJECT FOR QUALIFIED NURSES AND STUDENT NURSES**

Thank you for responding to my first questionnaire. As I previously informed you I am a nurse teacher funded in part by the National Board for Nursing, Midwifery and Health Visiting (Northern Ireland) to undertake a post-graduate degree by research.

The focus of the research is on the evaluation of different approaches to helping people give up smoking. I will also be collecting data on the smoking behaviour of students nurses and qualified nursing staff.

I would be most grateful if you would consider taking part in this study. Participation will entail completing a questionnaire and being contacted at 6 weeks and one year after the support group sessions. At these times I would like to discuss your views about smoking, and smoking cessation and the extent to which your smoking behaviour has changed. At the same time I will be monitoring carbon monoxide levels using the breath monitor and you may be asked to produce a saliva specimen to measure cotinine levels. I stress that all information given will be treated wholly confidentially and used only for the purpose of my research. All participants will remain anonymous and you may withdraw at any time.

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

## EXPLORATORY QUESTIONNAIRE NO. 2

Question: (i) *Would you like to try to give up smoking?*

Yes ☐  
No ☐

If the answer to the above question is **Yes**

(ii) *Would you prefer to try to give up smoking  
by taking part in a supportive programme*

Yes ☐  
No ☐

If the answer to the above question is **No**

(iii) *Would you be prepared to take part in the  
smoking study even though you do not want  
a supportive programme*

Yes ☐  
No ☐

Question: (iv) *What is your professional status?*  
Please put a tick in the appropriate space

Qualified Nurse ☐  
Student Nurse ☐

Thank you.

Now please sign your name and give your contact address  
(ward, college or other if you prefer).

**Name:** \_\_\_\_\_

**Contact Address:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





Please  
leave  
blank

☐ 4. How many cigarettes do you smoke per day? \_\_\_\_\_

1 ☐ 2 ☐ 3 ☐  
1 ☐ 2 ☐

☐ 5. What influenced you to start smoking? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1 ☐ 2 ☐  
3 ☐ 4 ☐  
5 ☐ 6 ☐  
7 ☐ 8 ☐  
9 ☐

**QUESTION:**

☐ 6. Does your spouse/partner/parents/family smoke  
(please specify) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ 1 ☐ 2  
☐ 3 ☐ 4

☐ 7. How much do you want to give up smoking?  
(tick the most appropriate statement)

I want to very much  
I would like to  
I don't know whether I want to or not  
I don't really want to  
I don't want to at

☐  
☐  
☐  
☐  
☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

☐ 8. How determined are you to try to give up smoking?  
(tick the most appropriate statement)

I am very determined indeed  
I am fairly determined  
Neither determined nor undetermined  
I am fairly undetermined  
I am not determined at all

☐  
☐  
☐  
☐  
☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

☐ 9. How sure are you that, if you tried, you would give up smoking?  
(tick the most appropriate statement)

I am very sure  
I am fairly sure  
I don't know  
I am fairly unsure  
I am very unsure.....

☐  
☐  
☐  
☐  
☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

☐ 10. Why do you want to stop smoking? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6  
☐ 7 ☐ 8 ☐ 9

**QUESTION:**

☐ 11. Have you previously tried to give up smoking?  
Yes ☐ No ☐

☐ 12. How many times have you tried to give up smoking?  
\_\_\_\_\_

☐ 13. What approaches/methods to giving up smoking have you tried in the past?  
\_\_\_\_\_  
\_\_\_\_\_

☐ 14. Please put a tick on the line which is closest to how you feel

- \_\_\_ My smoking will not affect my health
- \_\_\_ My smoking may affect the health of my family/friends
- \_\_\_ My smoking may affect my health
- \_\_\_ My smoking will affect my health
- \_\_\_ My smoking affects my health

☐ 15. How important do you feel health promotion is in relation to the nurse's role  
(please choose one response)

- It is the most important aspect of the nurse's role
- It is a fairly important aspect of the nurse's role
- It is no more important than any other aspect of the nurse's role
- It is less important than any other aspect of the nurse's role
- It is not an important aspect of the nurse's role

**Please  
leave  
blank**

☐ 1 ☐ 2

☐ 1 ☐ 2  
☐ 3 ☐ 4

☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

☐ ☐ 1  
☐ ☐ 2  
☐ ☐ 3  
☐ ☐ 4  
☐ ☐ 5

**Thank you very much for completing this questionnaire and for helping with this research project.**

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

## **APPENDIX 12**

## SMOKING RESEARCH PROJECT STUDENT NURSES

## Pre-Test Questionnaire

☐ NAME

☐ AGE

#### ☐ MARITAL STATUS

☐ ADDRESS

☐ TELEPHONE NUMBER

**QUESTION:**

☐ 1. How long have you been a student nurse? \_\_\_\_\_

☐ 2. How long have you smoked: No. of weeks \_\_\_\_\_  
(fill in number) No. of months \_\_\_\_\_  
No. of years \_\_\_\_\_

☐ 3. Did you smoke prior to commencing your nursing career?  
Yes ☐ No ☐

☐ 4. How many cigarettes do you smoke per day? \_\_\_\_\_

☐ 5. What influenced you to start smoking? \_\_\_\_\_  
\_\_\_\_\_

☐ 6. Does your spouse/partner/parents/family smoke  
(please specify) \_\_\_\_\_  
\_\_\_\_\_

**Please  
leave  
blank**

9

1  2  3   
4

1 ☐ 2 ☐ 3 ☐

1		2		3	
4		5		6	

1		2	
3		4	
5			

1  2 

1		2	
3		4	

1		2	
3		4	
5		6	

<input type="text"/>	1	<input type="text"/>	2
<input type="text"/>	3	<input type="text"/>	4

Please  
leave  
blank

**QUESTION:**

- ☐ 7. How much do you want to give up smoking?  
(tick the most appropriate statement)

I want to very much ☐  
I would like to ☐  
I don't know whether I want to or not ☐  
I don't really want to ☐  
I don't want to at all ☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 8. How determined are you to try to give up smoking?  
(tick the most appropriate statement)

I am very determined indeed ☐  
I am fairly determined ☐  
Neither determined nor undetermined ☐  
I am fairly undetermined ☐  
I am not determined at all ☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 9. How sure are you that, if you tried, you would give up smoking?  
(tick the most appropriate box)

I am very sure ☐  
I am fairly sure ☐  
I don't know ☐  
I am fairly unsure ☐  
I am very unsure ☐

☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 10. Why do you want to stop smoking? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ 1 ☐ 2  
☐ 3 ☐ 4  
☐ 5 ☐ 6

- ☐ 11. Have you previously tried to give up smoking?  
Yes ☐ No ☐

☐ 1 ☐ 2

- ☐ 12. How many times have you tried to give up smoking?  
\_\_\_\_\_

☐ 1 ☐ 2  
☐ 3 ☐ 4

- ☐ 13. What approaches/methods to giving up smoking have you tried  
in the past?  
\_\_\_\_\_  
\_\_\_\_\_

☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6

**Please  
leave  
blank**

**QUESTION:**

☐ 14. Please put a tick on the line which is closest to how you feel

- ☐ My smoking will not affect my health
- ☐ My smoking may affect the health of my family/friends
- ☐ My smoking may affect my health
- ☐ My smoking will affect my health
- ☐ My smoking affects my health

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5

☐ 15. How important do you feel health promotion is in relation to the nurse's role  
(please choose one response)

- It is the most important aspect of the nurse's role
- It is a fairly important aspect of the nurse's role
- It is no more important than any other aspect of the nurse's role
- It is less important than any other aspect of the nurse's role
- It is not an important aspect of the nurse's role

- |                          |                            |
|--------------------------|----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> 1 |
| <input type="checkbox"/> | <input type="checkbox"/> 2 |
| <input type="checkbox"/> | <input type="checkbox"/> 3 |
| <input type="checkbox"/> | <input type="checkbox"/> 4 |
| <input type="checkbox"/> | <input type="checkbox"/> 5 |

**Thank you very much for completing this questionnaire and for helping with this research project.**

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

***SMOKING RESEARCH STUDY***

***One Year Questionnaire***

***Stopped Smoking***

15 Levaghery Close  
Portadown  
Co Armagh  
BT63 5HL

Dear Colleagues and Students

**Re: Smoking Research Study**

Twelve months have passed since you kindly first completed a Questionnaire in relation to the above study. I now enclose a further Questionnaire and would be grateful if you would complete this also. I will collect it from the ward/classroom.

With your help we are now developing the most comprehensive set of information about this area in the UK. This will hopefully provide an understanding into nurses' smoking behaviour and will give insight into their views and experiences.

Your continued participation in the study is very much appreciated and is absolutely essential to the success of this project. Thank you for the interest you have shown so far. I will let you know the outcome of the study once the data has been collated.

Yours sincerely

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

Enc



# **SMOKING RESEARCH STUDY**

## **ONE YEAR QUESTIONNAIRE**

### ***STOPPED SMOKING***

I would like to find out more about how you succeeded in stopping smoking and how you have been managing since you smoked your last cigarette. Please complete **all** the questions.

**Please  
leave  
blank**

**QUESTION:**

- ☐ 1. How long is it since you gave up smoking completely?

I stopped smoking approximately \_\_\_\_\_ months ago

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6

- ☐ 2. Approximately how many cigarettes did you previously smoke daily?

\_\_\_\_\_

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 3. What was the main thing which influenced your decision to give up?  
(please specify)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9

- ☐ 4. In the past 12 months how many attempts has it taken to eventually give up completely  
(tick one response)

- ☐ one attempt  
☐ 2 - 3 attempts  
☐ more than 3 attempts

- ☐ 1  
☐ 2  
☐ 3

- ☐ 5. What has been the biggest obstacle to you stopping smoking?  
(please specify)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9  
☐ 10  
☐ 11

**QUESTION:**

- ☐ 6. How did you go about successfully stopping smoking?  
(please specify)

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- ☐ 7. What was the most difficult thing in trying to give up completely?  
(please specify)

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- ☐ 8. What coping strategies (if any) helped you most in giving up  
smoking?  
(please specify)

- ☐ 9. What other support/help (if any) would you have liked to assist  
you when giving up smoking  
(please specify)

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**Please  
leave  
blank**

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9  
☐ 10  
☐ 11

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9

- ☐ 1  
☐ 2  
☐ 3  
☐ 4

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9

**Please  
leave  
blank**

- ☐ 10. When (if at all) did it become easier to maintain smoking cessation  
(please specify)

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- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7

- ☐ 11. What do you feel is the best thing about giving up smoking?  
(please specify)

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- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8  
☐ 9  
☐ 10

- ☐ 12. How determined are you to remain a non-smoker?  
(please tick the most appropriate response)

I am very determined indeed  
I am fairly determined  
Neither determined nor undetermined  
I am fairly undetermined  
I am not determined at all

☐  
☐  
☐  
☐  
☐

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 13. How confident are you that you can continue to stay off cigarettes  
in the future?  
(please tick the appropriate response)

I am very sure  
I am fairly sure  
I don't know  
I am fairly unsure  
I am very unsure

☐  
☐  
☐  
☐  
☐

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

**QUESTION:**

- ☐ 14. How important do you feel health promotion is in relation to the nurse's role?

(please choose one response)

- |      |  |                          |                            |
|------|--|--------------------------|----------------------------|
| role | It is the most important aspect of the nurse's role            | <input type="checkbox"/> | <input type="checkbox"/> 1 |
|      | It is a fairly important aspect of the nurse's role            | <input type="checkbox"/> | <input type="checkbox"/> 2 |
|      | It is no more important than any other aspect of the nurse's   | <input type="checkbox"/> | <input type="checkbox"/> 3 |
|      | role   |                          |                            |
|      | It is less important than any other aspect of the nurse's role | <input type="checkbox"/> | <input type="checkbox"/> 4 |
|      | It is not an important aspect of the nurse's role              | <input type="checkbox"/> | <input type="checkbox"/> 5 |

- ☐ 15. To what extent (if any) do you feel that giving up smoking has influenced your nursing role as a promoter of health?

(please specify)

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- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8

- ☐ 16. In a previous questionnaire you indicated that your smoking could be affecting or may affect your health. In what way, if any, has your health altered since giving up smoking?

(please specify)

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- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5  
☐ 6  
☐ 7  
☐ 8

**Thank you very much for completing this questionnaire and for helping with this research project.**

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

***SMOKING RESEARCH STUDY***

***One Year Questionnaire***

***No Change in Smoking Behaviour***

15 Levaghery Close  
Portadown  
Co Armagh  
BT63 5HL

Dear Colleague and Student

**Re: Smoking Research Study**

Twelve months have passed since you kindly first completed a Questionnaire in relation to the above study. I now enclose a further Questionnaire and would be grateful if you would complete this also. I will collect it from the ward/classroom.

With your help we are now developing the most comprehensive set of information about this area in the UK. This will hopefully provide an understanding into nurses' smoking behaviour and will give insight into their views and experiences.

Your continued participation in the study is very much appreciated and is absolutely essential to the success of this project. Thank you for the interest you have shown so far. I will let you know the outcome of the study once the data has been collated.

Yours sincerely

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

Enc

# **SMOKING RESEARCH STUDY**

## **ONE YEAR QUESTIONNAIRE**

### ***NO CHANGE IN SMOKING BEHAVIOUR***

I would like to find out more about your current smoking views, and how your views may have changed since you filled in the last questionnaire. Please complete all the questions.



**QUESTION:**

- ☐ 1. Approximately how many cigarettes do you smoke daily?  
(please specify the number smoked) \_\_\_\_\_

**Please  
leave  
blank**

- ☐ 1  
☐ 2  
☐ 3  
☐ 4  
☐ 5

- ☐ 2. Have you at any time over the last year attempted to change your smoking behaviour?

- ☐ 1  
☐ 2

(Please choose **one** response)

Yes ☐ No ☐

(If your answer to Question 2 is "Yes" please go to question 3.  
If "No" go to Question 5)

- ☐ 3. Which of the following statements apply to you?

- ☐ 1  
☐ 2  
☐ 3

I stopped smoking completely but started again ☐

I cut down the number of cigarettes I smoked  
but have increased again ☐

- ☐ 4. What was the **main** reason you resumed smoking/increased the number smoked?  
(please specify)

- ☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6  
☐ 7 ☐ 8 ☐ 9

- ☐ 5. What (if any) support would you have liked to assist you to change your smoking behaviour  
(please specify)

- ☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6  
☐ 7 ☐ 8 ☐ 9

- ☐ 6. Do you have any plans to change your smoking behaviour over the next year?

- ☐ 1  
☐ 2

(please choose **one** response)

Yes ☐ No ☐

(If your answer to Question 6 is "Yes" please answer Question 7.  
If "No" go to Question 8)

- ☐ 7. What are your plans for changing your smoking behaviour?  
(please specify)

- ☐ 1 ☐ 2 ☐ 3  
☐ 4 ☐ 5 ☐ 6  
☐ 7 ☐ 8 ☐ 9  
☐ 10

Now go to Question 9

**QUESTION:**

- ☐ 8. What do you feel is the major obstacle to you stopping smoking or cutting down?

☐1 ☐2 ☐3  
☐4 ☐5 ☐6  
☐7 ☐8 ☐9  
☐10 ☐11

- ☐ 9. What is the main reason that you continue to smoke?  
*(please specify)*

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

☐1 ☐2 ☐3  
☐4 ☐5 ☐6  
☐7 ☐8 ☐9  
☐10

- ☐ 10. What (if any) do you feel are the disadvantages of continuing to smoke?  
*(please specify)*

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

☐1 ☐2 ☐3  
☐4 ☐5 ☐6  
☐7 ☐8 ☐9

- ☐ 11. How much do you want to give up smoking?  
*(please tick the most appropriate statement)*

I want to very much  
 I would like to  
 I don't know whether I want to or not  
 I don't really want to  
 I don't want to at all

☐ ☐1  
☐ ☐2  
☐ ☐3  
☐ ☐4  
☐ ☐5

- ☐ 12. How determined are you to try to give up smoking?  
*(please tick the most appropriate statement)*

I am very determined indeed  
 I am fairly determined  
 Neither determined nor undetermined  
 I am fairly undetermined  
 I am not determined at all

☐ ☐1  
☐ ☐2  
☐ ☐3  
☐ ☐4  
☐ ☐5

- ☐ 13. How sure are you that if you tried you would give up smoking?

I am very sure  
 I am fairly sure  
 I don't know  
 I am fairly unsure  
 I am very unsure

☐ ☐1  
☐ ☐2  
☐ ☐3  
☐ ☐4  
☐ ☐5

**Please  
 leave  
 blank**

Please  
leave  
blank

**QUESTION:**

- ☐ 14. How important do you feel health promotion is in relation to the nurse's role?

(please choose one response)

It is the most important aspect of the nurse's role  
It is a fairly important aspect of the nurse's role  
It is no more important than any other aspect of the nurse's role  
It is less important than any other aspect of the nurse's role  
It is not an important aspect of the nurse's role

<input type="checkbox"/>	<input type="checkbox"/> 1
<input type="checkbox"/>	<input type="checkbox"/> 2
<input type="checkbox"/>	<input type="checkbox"/> 3
<input type="checkbox"/>	<input type="checkbox"/> 4
<input type="checkbox"/>	<input type="checkbox"/> 5

- ☐ 15. To what extent (if any) do you feel that your smoking affects your nursing role as a promoter of health

(please specify)

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---

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<input type="checkbox"/> 1
<input type="checkbox"/> 2
<input type="checkbox"/> 3
<input type="checkbox"/> 4
<input type="checkbox"/> 5
<input type="checkbox"/> 6
<input type="checkbox"/> 7

- ☐ 16. In a previous questionnaire you indicated that you believed smoking could be affecting or may affect your health

How do you reconcile continuing smoking?

(please specify)

---

---

---

<input type="checkbox"/> 1
<input type="checkbox"/> 2
<input type="checkbox"/> 3
<input type="checkbox"/> 4
<input type="checkbox"/> 5
<input type="checkbox"/> 6
<input type="checkbox"/> 7
<input type="checkbox"/> 8
<input type="checkbox"/> 9

- ☐ 17. Please put a tick in the box which is the *closest* to how you feel.

(Choose one response)

My smoking affects my health  
My smoking will affect my health  
My smoking may affect my health  
My smoking will not affect my health  
My smoking may affect the health of my family/friends

<input type="checkbox"/>	<input type="checkbox"/> 1
<input type="checkbox"/>	<input type="checkbox"/> 2
<input type="checkbox"/>	<input type="checkbox"/> 3
<input type="checkbox"/>	<input type="checkbox"/> 4
<input type="checkbox"/>	<input type="checkbox"/> 5

Thank you very much for completing this questionnaire and for helping with this research project.

Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.

## **APPENDIX 15**

15 Levaghery Close

Portadown

Co Armagh

BT63 5HL

Dear Ward Sister

### **PROPOSED PROJECT FOR QUALIFIED NURSES AND STUDENT NURSES**

I intend to conduct some research, part funded by the National Board for Nurses, Midwives and Health Visitors (Northern Ireland) and am seeking your co-operation as ward sister/charge nurse to access qualified nursing staff and student nurses (when necessary) on your ward.

The research project aims to evaluate different approaches to helping people stop smoking and a support programme will be offered to nurses who wish to give up smoking. Part of the study involves distributing questionnaires to qualified nurses and student nurses and interviewing them about their smoking behaviour one year following the support programme. Relevant senior nurses have been approached and have given permission and support for the study to take place.

It is appreciated that many demands are made on nurses' time and I assure you that, as far as possible, contact will be made with them before or after their span of duty.

Your help in this important project is much appreciated.

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

**APPENDIX 16**

15 Levaghery Close  
Portadown  
Co Armagh  
BT63 5HL

Dear Nurse Teacher

**PROPOSED PROJECT FOR QUALIFIED NURSES AND STUDENT NURSES**

I intend to conduct some research, part funded by the National Board for Nurses, Midwives and Health Visitors (Northern Ireland) and am seeking your co-operation as a nurse teacher to access student nurses in your classes.

The research project aims to evaluate different approaches to helping people stop smoking and a support programme will be offered to nurses who wish to give up smoking. Part of the study involves distributing questionnaires to qualified nurses and student nurses and interviewing them one year following the support programme.

The Director of Education and senior nurse teachers have been approached and have given permission and support for the study to take place.

It is appreciated that many demands are made on your time and I assure you that contact with the students will be at a mutually agreed time to suit your teaching timetable.

Your help in this important project is much appreciated.

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

**APPENDIX 17**

**SMOKING RESEARCH PROJECT**

**Consent to Participate in Study**

I \_\_\_\_\_ of \_\_\_\_\_ agree to participate in the above smoking research study. The nature, purpose and possible consequences of the procedures involved have been explained to me by \_\_\_\_\_ and are acceptable to me.

Please tick the appropriate response.

- (a) I would like to participate in the Smoking Cessation Programme ☐
- (b) I would like to participate in the Study but do not wish to take part in the supportive Smoking Cessation Programme ☐

I understand that I am entering this project of my own free will and am free to withdraw at any time, without necessarily giving any reasons.

Signed (Nurse) \_\_\_\_\_

Witnessed by \_\_\_\_\_

Date \_\_\_\_\_

## **APPENDIX 18**

### **SMOKING RESEARCH STUDY**

#### **Interview Schedule**

#### **NURSES - STOPPED SMOKING**

1. Why did you decide to stop smoking?
2. Tell me about your experience of stopping?
3. How important do you feel health promotion is in relation to the nurse's role?
4. Has giving up smoking influenced your nursing role as a promoter of health in any way?
5. You previously indicated that smoking could be affecting or may affect your health. Has your health altered in any way since giving up smoking.

## **APPENDIX 19**

### **SMOKING RESEARCH STUDY**

#### **Interview Schedule**

#### **NURSES - CONTINUING TO SMOKE**

1. Why do you continue to smoke?
2. Have you at any time attempted to stop?
3. How important do you feel health promotion is in relation to the nurse's role?
4. To what extent (if any) do you feel smoking affects your nursing role as a promoter of health?
5. You previously indicated that you believed smoking could be affecting or may affect your health. How do you reconcile continuing to smoke?



**APPENDIX 20**

15 Levaghery Close  
Portadown  
Co Armagh  
BT63 5HL

Dear Qualified and Student Nurse

**SMOKING RESEARCH STUDY: PHASE TWO**

In order to gain further useful information in relation to your views and experiences of smoking it would be most beneficial to personally interview on a one to one basis, a sample of nurses who participated in the smoking research study.

Please indicate on the enclosed slip if you would be willing to take part in a short personal interview in the near future. To facilitate the data collection, I intend using an audio tape recorder. I stress that all information will be used only for the purpose of the study, and anonymity is assured. You are free to withdraw at any time or request to have the tape recorder switched off during the interview.

**Kathy Rowe BSc (Hons) RGN RNT DipN Adv.Dip.Ed.**

Enc

**CONSENT TO PARTICIPATE IN PHASE TWO OF THE SMOKING  
RESEARCH STUDY**

I agree to participate in a personal interview in relation to smoking. The nature of which has been explained to me and is acceptable to me.

YES ☐

NO ☐

Signature: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. No.: \_\_\_\_\_

Professional Status: \_\_\_\_\_

Clinical/Educational Area: \_\_\_\_\_

**APPENDIX 21**

**Carbon Monoxide and Cotinine Measurements of Nurses Who Stopped Smoking at One Year**

No.	CO Baseline	CO at 6 weeks post interv.	CO at 6 months post interv.	CO at 1 year/ months post interv.	18	Cotinine at 6 months post interv.	Cotinine at 1 year/18 months
001	14	3	2	8		nil	nil
003	31	4	3	2		nil	nil
004	19	20	20	6	4	250.2	nil nil
012	19	3	3	6		nil	nil
015	18	22	18	2	3	228.1	nil nil
022	14	11	21	2	5	267.3	nil nil
024	15	13	18	2	4	238.2	nil nil
057	27	*not taken	9	4		nil	nil
058	24	*not taken	6	2		nil	nil
062	24	18	16	2	6	212.8	nil nil
064	12	15	18	6	3	231.6	nil nil
066	24	5	4	1		nil	nil
067	20	8	6	6		nil	nil
068	12	3	6	6		nil	nil
077	28	8	1	2		nil	nil
086	30	*not taken	18	1	2	242.7	nil nil
097	35	*not taken	23	2	4	384.5	nil nil
*Reference Group							

**APPENDIX 22**

**Carbon Monoxide Measurements of Nurses Who Continued to Smoke at One Year**

No.	CO Baseline	CO at 6 weeks	CO at 6 months	CO at one year
002	28	26	22	26
005	14	15	18	19
006	13	3	6	17
007	22	22	refused	21
008	21	8	4	16
009	28	14	12	17
010	28	3	7	21
085	20	19	12	14
100	32	6	8	36
016	16	6	9	16
047	15	3	3	14
018	22	18	12	12
059	40	38	12	14
029	25	4	16	18
023	16	23	31	16
026	20	26	24	22
073	20	5	6	18
031	17	15	21	31
032	23	10	8	24
030	46	not taken	21	15
048	16	not taken	23	12
050	17	not taken	29	18
053	13	not taken	20	22
052	46	9	25	12
063	20	8	23	18
065	25	4	25	16
071	20	5	16	refused
072	21	20	16	21
054	19	20	15	12
051	16	8	8	13
021	28	5	4	26
080	30	3	6	40
060	18	4	5	13

### APPENDIX 23

#### **Comparison of Cotinine and Carbon Monoxide Levels at Six Months and One Year of Nurses Who Continued to Smoke Post Intervention**

No.	ng Cotinine/g Saliva at six months	ng Cotinine/g Saliva at one year	CO ppm in expired air at six months	CO ppm in expired air at one year
002	508.5	398.4	22	26
016	136.4	212.4	9	16
008	nil	238.1	4	16
021	nil	418.4	4	26
030	477.5	196.1	21	15
047	61.6	171.7	3	14
080	nil	645.2	6	40
007	311.3	645.2	refused	21
029	578.5	510.6	16	18
005	326.5	238.1	18	19
059	161.9	175.4	12	14
026	705.9	535.1	24	22
100	nil	613.0	8	36
050	refused	583.3	29	18
063	166.7	446.4	23	18
065	703.1	247.8	25	16
053	169.5	413.2	20	22
072	508.5	398.4	16	21
054	refused	174.7	15	12
009	243.1	223.0	12	17
060	nil	158.1	5	13
071	240.0	483.9	16	refused
073	315.0	156.9	6	18
031	refused	232.6	21	31
006	76.5	322.6	6	17
032	nil	320.0	8	24
010	323.9	149.8	7	21
051	83.7	156.9	8	13
023	290.0	167.4	31	16
085	refused	87.0	12	14
018	160.6	158.7	12	12
052	refused	150.6	25	12
048	refused	174.7	23	12

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